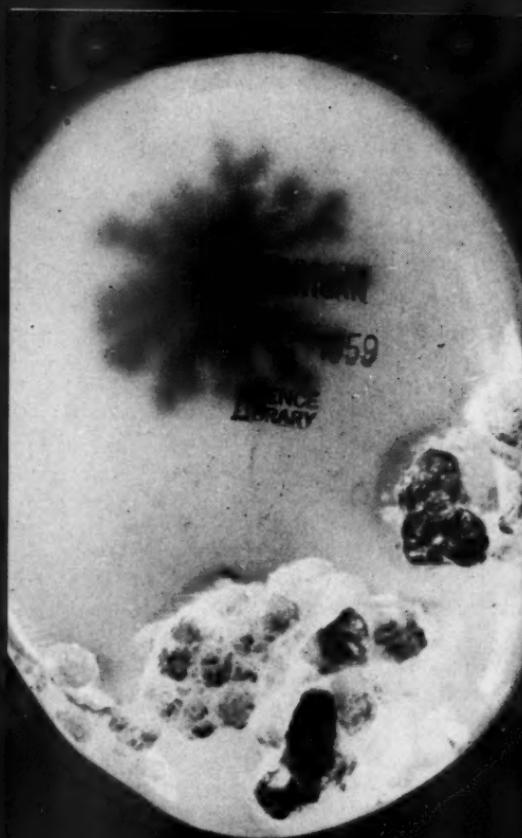


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# ROCKS & MINERALS

PETER ZODAC, Editor and Publisher  
America's Oldest and Most Versatile  
Magazine for the Mineralogist, Geol-  
ogist, Lapidary.

Published Bi-Monthly

OFFICIAL JOURNAL



ROCKS & MINERALS  
ASSOCIATION

Official magazine  
of the  
Eastern Federation of  
Mineralogical and  
Lapidary Societies

WHOLE NO. 271

VOL. 34, Nos. 7-8

JULY-AUGUST, 1959

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Entered as second-class matter September 13, 1926, at the Post Office at Peekskill, N. Y.  
under the Act of March 3, 1879.

Title registered in U. S. Patent Office. Copyright 1959 by Peter Zodac

Specially written articles (as contributions) are desired.

Subscription price \$3.00 a year; Current numbers, 60¢ a copy. No responsibility is  
assumed for subscriptions paid to agents and it is best to remit direct to the Publisher.

Issued bi-monthly on the 20th of the even months.

Authors alone are responsible for statements made  
and opinions expressed in their respective articles.

ROCKS and MINERALS, BOX 29, PEEKSKILL, N. Y., U.S.A.  
(Office — 157 WELLS STREET — Tele. Peekskill 7-3185)

# CHIPS FROM THE QUARRY

## COMING EVENTS

Sept. 5, 6, 7, 1959—National Gem Fair, Portland, Ore. Host—Oregon Agate and Mineral Society, Portland, Ore. Albert J. Keen, Dealer Chairman, 2715 N.E. 41st Ave., Portland 12, Ore.

Sept. 26-27, 1959—Nebraska Mineral and Gem Club, Inc., Annual Show to be held in the Civic Auditorium, 17th & Capitol Ave., Omaha, Nebr. Celia M. Vokoun, Secy.-Treas., 1521 So. 25th St., Omaha 5, Nebr.

Oct. 3, 4, 1959—Annual Show of the Lincoln Gem and Mineral Club to be held at the new 1½ million dollar National Guard Armory on Hwy 77 at 1776 N. 10th St., Lincoln, Nebr. Mrs. Floyd S. Lange, Publicity, 1529 S. 9th St., Lincoln 2, Nebr.

Oct. 17, 18, 1959—Annual Show of the San Francisco Gem and Mineral Society, Inc. at the Scottish Rite Auditorium, 1290 Sutter St., San Francisco, Calif. Mrs. Carol Reinecke, Corres. Sec'y., 4134 Judah St., San Francisco 22, Calif.

### R&M by a long shot!

#### Editor R&M:

I used to be a subscriber of R&M when I was in Victorville Calif., 8 years ago and since then have had occasion to glance through many magazines. R&M, I am proud to say, is the finest and most factual by a long shot. Please put me down again on your subscription list.

Jack Moffitt  
1475 E. University  
Springfield, Mo.

### Maine Post Office never fails!

#### Editor R&M:

Yesterday a package of 5 R&M's were delivered to me here in Lincolnville. It goes without saying I was delighted to know that I had not been crossed off your mailing list for moving around so much.

Even this last effort to reach me was incorrectly addressed but one thing we can be sure of the Post Office Department in Maine knows that Olive Looney subscribes to ROCKS AND MINERALS.

Olive Looney  
Lincolnville, Me.

### Photo on the cover

The photo on the cover of this issue was sent in by Gene C. McLaren, 111 Neptune Ave., Avon-by-the-Sea, N.J. Here is his letter which came with it:

"Sending along an enlarged picture of a piece of honey carnelian which was found in Carnelian Brook near South Stirling (Somerset Co.), N.J., on one of our field trips (Monmouth Mineral and Gem Club, Red Bank, N.J.).

"This piece of material is approximately 3/4 by 15/16 of an inch in size. The inclusion is just about 3/8 of an inch across and the inclusion, as can be seen, is like a perfect snowflake.

"The holes or pockets in the stone are filled or lined with minute crystals.

"The original material was slightly larger but our good pal and club member, Pete Farley, shaped and polished it to its present condition.

"The wonderful picture was taken and then blown up by another wonderful club member, Vic Wisner, sooooo—as you see now, all I did was to find the blame thing.

"Might add, if any visiting rock hounds are around Fair Haven, N.J., on the second Thursday of any month, tell them to drop in at the Fair Haven Methodist Church—they will be most welcome at the Monmouth Mineral and Gem Club meetings."

### Nassau Mineral Club is growing!

#### Editor R&M:

Our Nassau Mineral Club is growing; we now have 63 members.

Flora E. Mecke, Secretary  
6 Elm Place  
Sea Cliff, L. I., N. Y.

### Poor Sandy—he has to go to work again!

Sandy Ramsay, our faithful correspondent in Glasgow, Scotland, has been on the sick list for many weeks but now he is up and around again. Good for you, Sandy, not even sickness can keep a good man down!

In his letter, dated March 12, 1959 Sandy writes:

"A little news, both good and bad. Good. I'm out of the hospital. Bad, I've started to work again."

# PHOTOLUMINESCENCE

By LOUIS H. ROTH

114-67 223rd St., Cambria Heights 11, N.Y.

Photoluminescence is defined as the emission of light from substances during the time that they are exposed to radiation of various kinds.

It is "cold" light and hence recognized as a form of Luminescence.

Photoluminescence is subdivided into Fluorescence and Phosphorescence, phenomena with which we are familiar and of considerable interest to us in Mineralogy.

It may come as a surprise to some of us, that Phosphorescence was first described by an Italian as early as 1568. He found that after he had exposed a diamond to light, it would later shine in the dark.

The first artificial phosphor was prepared and perfected by Vincenzo Casciariolo, a cobbler, in 1603. He was a part time Alchemist in Bologna, Italy. Like all Alchemists of that day, he was looking for a way to convert a baser substance into gold.

He called this phosphor "Lapis Solaris" because it would glow in the dark. It excited tremendous interest among the great of that day including, Galileo, Magini and La Galla. The secret of preparing this phosphor was almost lost with the cobbler's death. We now know that it was prepared from the mineral known as heavy spar, a native barium sulphate, rich in sulphur.

And by 1775, Wilson, an Englishman, had demonstrated that phosphorescence could be excited by sunlight in hot or slightly browned paper, toasted bread, linen, cotton, shells, feathers and sugar.

Fluorescence apparently was first recorded by a Spanish Botanist and Physician prior to 1578. He described a wood from the New World which he called "Lignum Nephriticum". When made into cups and filled with water, a peculiar blue tinge was noted. The wood came from a tree in Mexico known there as the "Palo Dulce".

There appears to be little interest in Fluorescence displayed by the Alchemists and other dabblers in science. It was observed, of course, and described simply as a phenomenon of "remarkable varied colors".

Then in 1852, George Gabriel Stokes of Cambridge University made a thorough study of English Fluorspar or Fluorite. He came to the conclusion that the light beam in this mineral was actually emitted through what he called "dispersive reflection". This term did not suit him so he coined the word Fluorescence from Fluorspar, as the analogous term, opalescence is derived from the name of a mineral.

Stokes further concluded from his experiments with Fluorite, that the exciting light which produced "dispersive reflection" or Fluorescence was of a *shorter* wave-length than the light which was emitted from the mineral. Almost immediately, this was confirmed by many scientists and this conclusion became known as the "Stokes Law".

Then 10 years later, Eugene von Lommel of Germany, investigated all aspects of Fluorescence and concluded in substance that a body capable of exhibiting it, fluoresces by virtue of the rays it absorbs. He also concluded that Phosphorescence was an effect of "absorbed light". These conclusions have been designated by some writers as the "Lommel Law".

At this point simple definitions of Fluorescence and Phosphorescence will prove helpful in a better understanding of these phenomena.

Fluorescence is an emission of light during the irradiation of a substance by *any type* of radiation provided the emission *immediately ceases* when the exciting radiation is cut off.

Phosphorescence takes place if the emission of light *persists* even though the exciting radiation has been removed.

Modern theory indicates that the duration of the emitted light is not necessarily a distinction between the two phenomena. A better test is to determine whether the excited state is paramagnetic (magnetic like iron but to a much lesser degree), when Phosphorescence is indicated.

However, for all practical purposes, Fluorescence and Phosphorescence are treated together.

As amateur mineralogists, we are familiar with Fluorescence and Phosphorescence that results when certain minerals and gems exhibit these properties while the exciting radiation is produced by ultra-violet rays of various wave-lengths.

It must be noted that these phenomena may be excited by *visible light*, *X-Rays*, *Gamma Rays*, *Cathode Rays* and *Infra-Red Rays*.

Both Fluorescence and Phosphorescence can be of any discernible spectral color depending upon the activating wave-length of the exciter, the composition of the substance subjected to excitation, the masking effect and the capabilities of the human eye.

Confining ourself to ultra-violet radiations, we find that in the Electro-Magnetic Spectrum it extends roughly from about 1800 to 3800 Angstrom Units or A.U.

We also find that the human eye is incapable of "seeing" these ultra-violet radiations except in some rare instances in the very young when sensitivity may extend down to 3150 A.U. For most of us, the sensitivity extends down to no better than 3650 A.U.

The visible light spectrum extends from about 3800 to 7600 A.U. Since the human eye is in reality a broadly tuned color receiver it tunes or differentiates the various colors in the visible light spectrum. It has been found that the greatest sensitivity of eye is in the yellow-green region of 5500 A.U.

Bombarding or directing ultra-violet rays of different wave-lengths upon any mineral or gem does not necessarily result in Fluorescence or Phosphorescence.

The mineral or gem must have some property be it a uranyl or tungstate component or some activator or some impurity in the right amount before the exciting ultra-violet rays can produce the resultant colors which we call Fluorescence or Phosphorescence.

Just how or why Fluorescence or Phosphorescence results has puzzled scientists for hundreds of years.

There have been many, many theories. Currently the accepted and most logical explanation is that the exciter (let us say, ultra-violet rays) when directed upon a substance capable of reacting to it, disturbs the atomic structure and the added energy forces electrons to a higher energy level, then these electrons in returning to their original lower level, release quanta of light, the sum total constituting the Luminescence.

Ultra-violet radiations or rays are roughly divided into three bands: FAR or SHORTWAVE extending from about 1800 to about 2800 A.U.; MIDDLE or ERYTHEMAL, from about 2800 to 3200 A.U. and NEAR or LONGWAVE or BLACKLIGHT from about 3200 to 3800 A.U.

A very simple means of producing Shortwave ultra-violet rays is by the use of ionized or vaporized mercury with an appropriate gas in a low-pressure vacuum tube with a source of electricity.

Since the ionized mercury produces most of its ultra-violet radiations in the Shortwave band at the 2537, A.U. line, the glass envelope which contains it must be of a special composition to permit the passage or transmittance of these rays in sufficient quantities to be useful.

Unfiltered Shortwave ultra-violet rays are used to produce Ozone or kill air-borne bacteria. To be used by the mineralogist, a special filter is absolutely essential for good results. A good filter not only absorbs the visible light emitted by the mercury vacuum tube but transmits, at the same time, a goodly portion of the ultra-violet rays.

In the production of Longwave ultra-violet rays or Blacklight, any lamp radi-

ating in the region between 3200 and 3800 A.U., may be used with a suitable Longwave filter. Although an incandescent lamp is an inherently weak source of ultra-violet, it will nonetheless produce a moderate amount of Longwave ultra-violet with a suitable filter.

There are special Mercury lamps which will produce very considerable quantities of Longwave ultra-violet or Blacklight and are adaptable for projecting these rays at a considerable distance with special filter roundels.

Within the past few years, Fluorescent BL and BLB lamps have been extensively used for the production of Longwave ultra-violet. The inside of

these lamps are coated with a special phosphor which converts the 2537 A.U. generated by the ionized mercury to the longer Blacklight wave-length at 3650 A.U. The BL type requires a suitable Longwave filter. The BLB type is self-filtered. These particular types are fairly efficient sources of Longwave ultra-violet but projection distance is limited.

Photoluminescence has come a long way from the time when the cobbler of Bologna thought he had found the secret to make Gold and the Spanish Botanist claimed that the bluish water in the cup made from "Lignum Nephriticum" was an excellent kidney remedy!

#### Pontiere—Cape May "Diamond King"

One of our good subscribers, John V. Pontiere, 411-9th St., S.W., Ocean City, N.J., has long been known as the Cape May "Diamond" King. This is due to his fondness for the translucent quartz pebbles that occur at Cape May (Cape May Co.), at the extreme southern tip of New Jersey.

The Ocean City realtor has spent the last 35 years poking holes in the earth and plucking out precious and semi-precious stones. He began weekend expeditions and in the intervening years has dipped his geological hammer into likely places from Arizona to Hudson Bay in Canada.

Today his collection includes over 1,000 gems, many of them the Cape May "diamonds" (quartz but sometimes called white "sapphires"). He describes the white "sapphire" as a translucent pebble of gem variety with qualities of hardness and brilliance lacking in ordinary pebbles. His largest find was a Cape May "diamond" weighing 2,430 carats which he unearthed in a sand pit not far from Somers Point (Atlantic Co.), N. J. As large as a fist, it is on display, uncut, at the Academy of Natural Sciences, Philadelphia, Penn. It weighs 14 gem ounces. A most interesting article covering Mr. Pontiere's activities, including a fine picture of him and part of his gem collection, appeared a few months ago in the *Atlantic City Press*, Atlantic City, N. J.

It was Mr. Pontiere's first find of Cape May "diamonds" that started him off in hunting gems.

#### The "Wishing Book"—R&M!

##### Editor R&M:

Years ago we called Sears Roebuck's Catalog the "Wishing Book" but since we have become rockhounds ROCKS AND MINERALS MAGAZINE has become our "Wishing Book". We read every issue many times, from cover to cover, and wish we could buy all of the things advertised in it.

Lillian Swift  
955 Beatty St.,  
Trenton 10, N.J.

#### R&M a good teacher!

##### Editor R&M:

I cannot think of any publication that has kept me so fascinated as has your very fine magazine. Although I am a rank amateur at the identification of minerals, have sure learned quite a bit since entering my subscription for R&M.

Allen E. Marks  
12215 Ashbury Ave.  
Cleveland 6, Ohio

#### Work stops when R&M arrives!

##### Editor R&M:

You are putting out a wonderful magazine and I can hardly wait for each issue to arrive. The only trouble is that when it comes household tasks have to wait while I at least glance through it.

Mrs. A. B. Carson  
12 Cateechee Ave.  
Greenville, S.C.

# Rocking Around Florida

By CECILE FORD  
723 Beltrees St., Dunedin, Fla.

When Mr. and Mrs. Ray F. Bowman, a pair of roving rock hounds, were making plans to move to Florida four years ago, they were told by friends that there were no rocks in Florida worthy of a collector's notice. However, soon after their arrival they were rocking away as merrily as ever.

Anyone passing 1791 Sylvan Drive, Clearwater, can tell at a glance that it is inhabited by rock hounds. Rocks are scattered through the flower beds and there is a rock castle at the south corner of the house. Rocks and shells are placed solidly a foot or so from the foundation on all sides. "It keeps mud

from splashing up on the house," the Bowmans will tell you.

Mr. and Mrs. Bowman who are just two years this side of a golden wedding anniversary, have found a happy unity in their fascinating hobby and recommend it as a sure cure for growing old. They are friendly people and are always eager to show visitors their treasures.

They will explain that the object propped by the front door is not really a turtle shell but a septaria clay stone from Braidwood, Illinois. And Mrs. Bowman will insist that the flint nodule from Mommoth Cave in Kentucky, that re-



**ROLLING STONES GATHER ROCKS**—Mr. and Mrs. Ray F. Bowman, who have lived in all parts of the United States, were told that when they moved to Florida they would find no rocks of value to add to their collection. However, they were soon rocking away harder than ever and are shown here in their rock room in their home in Clearwater. Mrs. Bowman is displaying an unusual formation of calcite from a Wisconsin lead mine and Mr. Bowman is holding a piece of banded flint from near Bushnell, Florida. Behind them is their Florida collection.

Photo by Frank H. McCombs, Dunedin, Florida

sembles a duck waddling through her flowers in the back yard, has had its bill dyed naturally with yellow clay but will admit adding the eye.

When the caller enters the front door he will soon realize that he has chanced on one of the finest private rock collections in the state. Each rock bears a number and is neatly catalogued. "We shouldn't even have some of these things," stated Mr. Bowman. "They belong in a museum." At the moment he was referring to five unusual formations of calcite from a Wisconsin lead mine which look like children's blocks piled one on another. "They just don't come that way," he explained, "but here they are!"

The walls of their home are covered with photographs of the caves and mines they have visited. Mrs. Bowman's favorite is one of the Oronogo Mine in Missouri which is now abandoned and full of water. It was in this mine that she found a heart shaped piece of marcasite which she calls "the heart of Oronogo."

Just inside the front door is a bird roost made from driftwood from Bull Shoals Dam in Arkansas picked up by the Bowmans the day before President Truman dedicated the dam which forms a lake with 1,000 miles of shoreline.

The Bowman's work has taken them to nearly every state in the union. Mr. Bowman traveled for gas and electric utilities corporations and later for a chemical company. Mrs. Bowman has worked as a secretary for Western Electric and other corporations.

Believing that their collection was closed when they decided to move to Florida, they chose only their choicest specimens to bring with them and gave the rest to Boy and Girl Scouts and other young friends they were trying to interest in the world around them. Mrs. Bowman frequently went to private and grade schools to show her collection and tell the children about rocks.

So, laden with rocks and a family of parakeets, they left Rockford, Illinois, one bright morning, headed for Florida. Cricket, the baby parakeet, was

born the day they left and it was a merry journey with papa parakeet feeding mama parakeet and mama parakeet regurgitating to feed little Cricket, who lay on his back with his wings spread wide and his feet in the air. The parent parakeets became so frightened at the movement of the car that Mrs. Bowman finally had to take over the feeding of Cricket, who to this day regards her as his mother.

Rock hounds have a habit of running in packs and once in Florida the Bowmans began to look around. Soon they were members of the Tampa Mineral and Science Club and last January became charter members of the Pinellas County Geological Society which meets once a month in Dunedin.

Every weekend finds the Bowmans on field trips. One weekend they covered 700 miles. They have explored most of the state with the exception of the extreme southern part.

Florida has proved a rich field, particularly the Brookfield area where there are 27 caves, and the Crystal River area near Ocala. They find areas where dredge and fill operations are going on to be likely spots, also. One is the project nine miles north of St. Petersburg near Bay Pines where bodies of ancient Indians have been removed from a mound and placed in the state museum at Gainsville.

Mr. and Mrs. Bowman not only display their 3500 specimens to the visitor, but make the showing intensely interesting by giving a little of the story behind each. For example, there is the small nodule of crystal from Cape Prince of Wales, within sight of the International Date Line, which is believed by the Alutes to be the soul of a polar bear. When the bear dies he sinks to the bottom of the ocean but his soul comes back on earth in the form of a "kool koot," calcite formation.

Then there is the fused radioactive sand from near Alamogordo, New Mexico, from the first atomic blast. It is still radioactive and cannot be sent through the mails. In the same cabinet are rocks from Mt. Vesuvius, gathered by a sol-

dier stationed above Naples to guard the water supply, and a sample of gold ore from the Victor Mine in Cripple Creek, Colorado, one of the many picked up by school children and mailed to all parts of the United States at \$1 apiece. A new school building was financed by the project.

Many of the fossilized rocks were collected in spoil banks of strip coal mines in Braidwood and Mazon, Illinois, an area which is a fossil hound's paradise. Fern leaves, stems of plants and nuts and bark from the lepidodendron tree and leaves from the giant esquites or "horse tail" fern, which grew 20 million years ago, are clearly visible.

Near the fossils are a Herkimer "diamond" from New York, a zircon from Ceylon, a citrine from Brazil and a large diamond cut quartz from Hot Springs, Arkansas, which was cut in Austria. There is also a cone-in-cone, a queer limestone formation found only in a few places in the world: Gerard, Pennsylvania; Bainbridge, Ohio; Austria, etc.

One room of the house is used for nothing but specimens and holds a collection of fluorescent and phosphorescent rocks which glow with unbelievably beautiful shades of green, yellow, purple and blue. The rocks, which appear a dull brown in the daylight, suddenly spring to life under the light of a fluorescent lamp.

In this room, also, is an unusual rattle stone from near Wesson, Mississippi. Clay stone is rolled by the action of creek water and later, when it has dried out and shrunk, a pebble or sand that chanced to be in the center, rattles around on the inside. They are given to Indian babies for toys.

Here, also, is a stone in the shape of L'il Abner's Schmoos, a dogtooth of calcite from Joplin, Missouri, in a perfect triangle, and calcite formations weighing from 60 to 100 pounds found in Florida where calcite is usually in needle point crystals.

Since childhood, Mrs. Bowman has been a student of ancient history and has spent 50 years working on a project she completed just three years ago and

with which she has taken four blue ribbons at hobby shows. She believes it is the only such collection anywhere.

Using ancient history books and the Bible she had made two exhibits. One is a collection of 12 stones which represent the 12 tribes of Israel called "the breastplate of judgment," and the other is a collection of 12 stones representing the 12 apostles. Doubting Thomas is represented by the indefinite beryl which can't make up its mind as to color or clearness. James is represented by the clear white chalcedony which is without flaw. The rocks had to be chosen from among the 1704 different kinds mentioned in the Bible.

Like all collectors, the Bowmans are led on by that elusive object just over the next hill. In Mrs. Bowman's case, it is a sample of sand crystallized by lightning called fulgurite, found in the form of hollow tubes of paper-thin crystal standing perpendicularly in the sand where lightning has struck. Mrs. Bowman believes that, had she gone immediately to Clearwater Beach after three persons were killed by lightning recently, and had dug below the handle of the beach umbrella under which they were sitting, she would have found some excellent specimens.

The largest pieces of fulgurite in this part of the country are three specimens owned by Willard Olson, a dealer in New Port Richey, Fla. They are the size of the little finger.

One never learns everything about a subject and Mrs. Bowman is still asking questions as well as answering them. Some dinosaur gizzard stones in her collection from the Little Big Horn Mountains in Wyoming have led her to write to the World Encyclopedia in an effort to find out why some dinosaurs had gizzards and some did not. As yet she has not received an answer.

Mrs. Bowman has her own ingenious method of cracking open geodes, the rock collector's delight. She heats them very hot over a gas burner and drops them into a bucket of cold water. Geodes are smooth, round, uninteresting looking rocks until broken open. In

side are nodules of quartz, agate, or almost anything. Dealers use a diamond saw for cutting them.

"But none of these things come easy," states Mr. Bowman. "It takes patience and more patience. You bring home a lump and you wash and pick. You stick it in Clorox and you wash and pick some more and sometimes you come up with nothing."

And then again you may turn what looks like a glob of hard clay into a stalagmite that resembles a head of broccoli and the hard work is quickly forgotten. Or you may discover a hollow or "live" stalactite of dogtooth crys-

tal which should have been on the ceiling of the cave but was on the floor. And there is always the chance of coming home with the knee bone of a camel which ran wild in Florida several million years ago or teeth of a baby shark that have been replaced with agate.

There are no limits or boundaries to the hobby and it can open up a whole new world. If you want to stay alive as long as you live, take the Bowman's advice and get out in "them than hills" wherever you are. Chances are you will find hounds of the same breed close by. Just look in any supermarket. You can tell them by the bulges in their pockets.

## SOME UNUSUAL STONES IN FINLAND

By AARNE LAITAKARI, Director, Geological Survey of Finland  
Boulevard 29, Helsinki, Finland

Minerals found in Finland have been used as gemstones since the past few years. Most of them are the same which are used in other countries but there are among them some special types. First of all mention must be made of chrome diopside. This attractive green mineral appears abundantly in the country rock at the Outokumpu Copper Mine, yet specimens for polished gems are found after laborious searching. Non-transparent varieties are cut as cabochons. As great rarity there appear transparent, clear crystals of chrome diopside, which have been cut with facets for gemstones.

Gold washing in Lapland yields as side product bright red almandine. Here again flawless crystals seldom exceed the size of pea. The colour of this almandine is exquisitely beautiful, and adapts itself for faceting.

Transparent polishable, crystals of blue cordierite (aqua sapphire) are great rarities. Most beautiful ones are nearly sapphire blue.

Thin layers of small quartz crystals are found on crack surfaces in rocks in Finland. Such layers are dark coloured while light is flashing back from numerous crystal faces. A piece of this material surrounded by a thin silver border

makes a peculiar and pleasing ornament.

In some quartz quarries specimens are met with where transparent colorless bands alternate with bands of white milk quartz. The natural surface of this quartz can be left untouched, the back and the sides are polished for setting. We call this variety "banded quartz."

From the gold washing of Lapland every now and then nuggets are found, about  $1 \text{ cm}^2$  of size, which are used as such for pendants. Sometimes a pearl from the rivers of Lapland is set upon the gold and thus a valuable Finnish ornament is produced.

Cross twins of staurolite occur in mica schist in Finland. When mica schist is weathered away the more durable staurolite remains. The twins may form a right angle or an oblique cross. Earlier these crosses were used as amulets, produced by the nature herself.

The red garnet crystals in Finland are usually cracked and full of inclusions. They do not give material for faceted gems and their colour is too dark, too. Yet the natural crystal faces of these garnets are bright and appealing. A piece of this crystal might be rather nice, and it is an ornament which any collector interested in minerals might find and fix with his own hands.

## DIGGING FOR RUBIES IN COWEE VALLEY, N.C.

By CLIFFORD A. MARSHALL  
93 Justin Ave., Bay Terrace, Staten Island 6, N.Y.

Allow me to compliment R&M on the very splendid job that it did with the special North Carolina Number, July-August, 1958, issue of ROCKS AND MINERALS.

The picture of Cowee Valley, Macon Co. N.C., brought back pleasant memories to me. Having read an article in *Woman's Day*, the A&P magazine, March 1956,—"Rubies For the Digging"—we included Franklin, N.C., in our vacation trip to the Skyline Drive.

Our party consisted of four—Mr. and Mrs. Winchester, my wife and I. We left New York on June 30, 1956, heading South via the Keptopee Beach Ferry at Cape Charles, Va. After waiting six hours in line, we finally boarded the ferry at 8:10 P.M. for the two and a half hours trip. Next morning we took another ferry—the Newport News ferry—and went to Williamsburg and Jamestown. From there we proceeded through Richmond into North Carolina. On our way to Gatlinburg we passed through the colourful Indian village of Cherokee. We stayed overnight at Gatlinburg and left next morning—July 4th—for Franklin N.C., arriving there at noon.

A guide book told us that Franklin has been mined for gold, precious stones and rare minerals for over a century, and today, mica, feldspar and vermiculite plants are still in operation. It also stated that precious stones, including emeralds, garnets, beryl, rubies, moonstones, rhodolites and blue sapphires are found in the creek beds, and that the largest and most valuable emerald ever found in America came from the Franklin area many years ago. It is now in the Smithsonian Institution in Washington, D. C. and is valued at \$850,000.00.

We decided to spend the afternoon

visiting the Fontana Dam, which is about 50 miles out of Franklin, over very steep mountainous roads. On the way out we passed the Cowee school—6 miles from Franklin, where you turn off for the ruby mines.

Next morning—July 5, we awoke bright and early after a night of anxious expectations, had breakfast and packed a lunch (this is a "must", because there are no eating places after you leave Franklin) and departed for the Cowee Ruby Mines.

After an hour of riding in misty and sultry weather, we arrived at 9:30 A.M. at the Gibson's Ruby Mine. There we met the Gibson's—Weaver and his brother Carroll, and Carroll's wife.

The mines are situated in a little valley through which a creek runs. On either side of the creek is farm land and meadows. The Ruby mines are "strip" mines; the meadow has been cut away in sections, revealing the blue-gray mud or clay, studded with white, rounded flint-like rocks—alluvium—the sand, gravel and rock deposited by streams that vanished many ages ago.



The author, Clifford Marshall (left) and Carroll Gibson. Carroll's wife is at the window.

We paid the fee of \$1.00 per person and were loaned a bucket, spade and sieve, and then the fun began. One of the Gibson brothers showed us how to dig, and in our first pailful we found a ruby.

But, that's getting ahead of our story. The technique he showed us was to shovel out a "boulder" and scrape the mud from it and the surrounding area, and place it in a pail. Then take the pail about a hundred yards down to the stream or creek and empty the contents into a sieve and start washing away the loose clay until only gravel remained in the sieve.

At this point I must say that the screen or sieve used by those two ladies shown screening for rubies on page 337 of your special North Carolina issue has entirely too big a mesh. The screens supplied at the mines have a mesh opening of approximately  $\frac{1}{8}$ " which retains

all of the pebbles, after washing, in among which the rubies are found.

The creek was covered with a dense vegetation which made it delightfully cool for those working on the banks, but the water was cold. It was necessary for one to stand knee-deep with the sieve in order to get the proper washing action which separates the pebbles from the clay. As mentioned before, we got the thrill of our life when we started sorting the pebbles in the first sieve. Behold! There was a ruby.

To get the second bucket of "pay-dirt" I had to walk barefooted up to the mine and back, each trip being more tortuous than the preceding one, only because I had forgotten to bring along my sneakers.

The largest ruby found was  $5\frac{1}{2}$  carats, but unfortunately it was so badly pitted that cutting and polishing was out of the question. However we had



View of ruby mine.

it mounted in a gold pin which made a very pretty souvenir of our trip.

Among the other minerals found were sapphires, garnets, brown zircons, and kyanite, however these were all small ones, ranging from a carat down.

The article in *Woman's Day* stated that a young girl found a ruby which weighed about 25 carats and was worth from \$3,000 to \$15,000 depending on the colour and quality after it was cut.

We spent about four hours at the mine, and my aching back told me that we had had enough; so we packed up and returned to Franklin, tired but happy.

I must mention here that a sort of teamwork is necessary to accomplish best results, so while I dug and washed the sieve, the two girls sorted the "find-

ings", on the bank of the creek. Mt. Winchester who had once worked in a gold mine out West, thought it was a big joke so he amused himself by reading and taking moving pictures of us at work.

The rest of the trip home was made via the Skyline Drive and we passed near the town of Little Switzerland, N.C. where the emeralds are found. One big regret was not being able to stop at the State Mineral Museum; it was raining very heavily and we decided not to stop. We did visit the Luray Cavern's in Virginia and enjoyed the tour very much. The organ was still in its natural state and has since been converted into an electronic organ.

On July 11th we arrived back in Staten Island, N.Y., thus ending a very memorable vacation.

#### 3rd Annual Mineral Exhibit, Franklin, N.J.

Plans for the third annual Mineral Exhibit of the Franklin Kiwanis Club, September 26th and 27th, 1959, at Franklin N.J., promise unusual opportunities to view and collect the rare specimens unique to this area. After two years of experience, the Kiwanis Club has been able to arrange an expanded program which promises to bring together the finest collection of Franklin-Sterling minerals ever exhibited.

Permanent headquarters have been obtained at the old Taylor Engine House of the New Jersey Zinc Company, overlooking the mineral dump and a model mine will be on exhibit there to demonstrate how mining was conducted at Franklin. Facilities to display a record collection of minerals are being readied and arrangements are being made to include some of the finest collections of the area.

As usual visitors will be permitted to hunt for specimens at the mineral dump where a bulldozer will be in operation to turn over the rocks. This year, however, facilities for daylight inspection of specimens under fluorescent lights will be available at the dump.

The Kiwanis Club is completing plans to establish a permanent Mineral Museum at Franklin.

#### Mineralogical Research Seminar

We believe it will be of interest to your readers to learn of the formation of a new Mineralogical organization in the San Francisco Bay Area, with meetings being held in Berkeley, Calif. The name, Mineralogical Research Seminar, reflects the unique purposes for which it was formed. The guiding principle and the *raison d'être* concerns the advancement of the Earth Sciences through the original investigations on the part of the members, and an opportunity to discuss ideas and projects with others of similar interests.

The group at present approximates a score or so of enthusiasts with backgrounds in Physics, Crystallography, Chemistry, Mineralogy, Paleontology, and just plain advanced Rock-Hounds.

Others with serious interest in the various Earth Sciences, stressing Mineralogy are invited to participate in our mutual brain-picking sessions, either in person, if possible, or via correspondence. Those interested in more information will receive a prompt reply by addressing:

Mineralogical Research Seminar

3 Lenox Road

Berkeley 7, California

## NEW EXPOSURES OF BRUCITE AND DEWEYLLITE NEAR WEST CHESTER, PENN.

By CHARLES A. THOMAS, 706 Church St., Royersford, Penn.

Within the past five years some new road work and other excavating activities near West Chester, Penn., has brought to light rather exciting forms of old and well-known serpentine associate minerals—deweylite, brucite, sepiolite, parasepiolite and interesting serpentine. No williamsite was noted but some interesting veined opaque brownish-green serpentine is visible on a road bank exposure. Radiating sunbursts in the form of brownish-black dust-filled cavities up to four inches across were found in one rock which contained all of the above mentioned minerals with the addition of some white spots of magnesite and the dark colored dust which may be iron oxide or manganese or both.

Several crumbly specimens showing a vernacular form of brucite were noted and preserved for study. The brucite at first glance looked like nicely spaced fossils of a worm and presented as interesting, if not a mysterious appearance. A coating of the same dark dusty iron material made each "worm" a pleasing brownish-black against a lighter colored matrix. Imagine hexagonal plates standing on edge in rows such as curved racks of dominoes and then upsetting them as with dominoes and the result is what we found in the brucite. The basal cleavage planes are responsible for the odd behavior of these elongated crystals lying well placed on either or both sides of what must have been a lens-shaped cavity.

Two or possibly three very definite types of brucite were collected. Under high intensity long wave U.V. mercury-arc transformers lamps, the more translucent and elongated hexagonal forms of the brucite gave a rather strong light blue fluorescence reaction with a medium strong phosphorescence and a moderate decay period which lasted perhaps ten seconds. Before discover-

ing this material, the writer had been familiar only with the Wood's Chrome Mine brucite from near Texas, Penn. This brucite has a platy form not unlike gypsum and with a definite pale-blue to creamy-blue reaction under both wave lengths of U.V. but somewhat weaker than the brucite recently found. Another type of this interesting magnesium mineral is found in the form of cementing or fissure-filling aggregates of compact distorted hexagonal crystals which nearly always, excepting where the crystals could expand uninhibited here and there, presented a fluorescence reaction new to this writer. Many iron-bearing rocks will give a false red reaction under the average long wave lamps due to the tiny reflecting plates in the mineral which throw back to the viewer the color of the filter in the lamp. In order to check which reaction it is, true or false, the mineral in question may itself prove what it is really doing under the rays of the lamp. In a very dark room, expose the reddish reacting mineral for about twenty seconds to a strong long wave lamp (close up) and then suddenly pull the specimen away from the lamp's rays and into a dark area. If the red color follows for a sufficient distance, however short the phosphorescence period, if it is a true reaction, one will notice the very definite color due to fluorescence. This is a common reaction for red fluorescent minerals, especially Franklin, N.J., calcite. See Dana for the actual composition of this brucite with its manganese and iron protoxides which probably accounts for the vugs filled with the brown dust. No pyrite or pyrite cavities are noted in this serpentine.

The true and slightly distorted crystals of this new hexagonal form of brucite seem not to be as pearly as the platy variety from the Wood's Chrome Mine area. However, lacking in this, it

is very definitely a much stronger fluorescent mineral. A scratch test will show a hardness of 2.5 being easily scratched by calcite. It will show a definite magnesium reaction in a sufficiently hot flame, giving a pyroluminosity perhaps as strongly as magnesite. Fluorescence color may be predicted in the field; the darker colored crystals will react red and the paler and more milky ones will react a satisfactory blue.

Of the deweylite, always found with the brucite if only in small areas of thin-skinned layers, or very fragile red-brown or pale green breccia or crumbly layers—transition products of this Chester County serpentine—one can always say (if one is a mineral collector or a mineralogist) that deweylite comes in unexpected colors. In this roadside exposure some thin coatings of the deweylite are almost brick-red. This type does not fluoresce at all. The paler pastel colored material will almost always give a good show of fluorescence in the usual cream color. Some of the better reacting specimens of deweylite will kick up a luminosity the equal of some of the better norbergite from Franklin, N.J., and quite a bit brighter than Ohio fluorite. The average weathered coatings do not present a good show of fluorescence.

The colors of this new locality deweylite are the usual but always unexpected hues of browns, greys, greens, cream or buff, fine red-browns, almost white and almost black. Note also that there are three distinct fluorescent reactions from the same area.

Sepiolite (meerschaum) was found in a fine fairly thick piece without contamination of any sort from other minerals. This is the mineral which may be polished with a wet thumb and a little pressure. Some fine large masses of this mineral must have been blasted to crumbs when the new road was built. Only the one nice piece was found. This material will not fluoresce, a characteristic that may distinguish it from deweylite. Fibrous, asbestos-like coatings of the sepiolite transitions may also be collected in the road cuts. The

only other meerschaum found by this writer was found in place in the old Brinton quarry near West Chester, Penn., famed for its olive-green serpentine and associated minerals. Dana describes parasepiolite as a fibrous variety. Tiny fibers of this sepiolite may be picked away from the matrix.

The finished road cuts are about one mile north of West Chester in Chester County, Penn. Another locality besides this one and Wood's Chrome Mine area is that of Mineral Hill, near Media, Delaware County, Penn. Here the writer found only deweylite and meerschaum in greens, greys, and buffs. The Media locality deweylite does not react under long wave lamps to this writer's knowledge.

A new road is contemplated that will cut through or very close to a pit which still produces smoky quartz of gem quality, black tourmaline, and good books of mica in another area of Chester County near Coatesville, Penn. The writer found a forty pound beryl crystal part near this locality about ten years ago. At this place tiny pits in the mica are sometimes filled with a radioactive powder somewhat resembling saponite. The small pits will fluoresce brilliantly under both wave lengths.

#### There are problems

There are problems, I'll admit.  
Where will my poor man find to sit?  
With rocks on the tables, chairs and  
floor

And me a-planning to hunt for more.

My bowls are full of rocks awaiting.  
Tooth brush and hair brush both are  
breaking.

Listen, Honey, now don't be mad  
It's my brush—not yours—that looks  
so bad.

Yes, the dishes are dirty, the house  
is a sight,  
But, Gee, I really slept good last night.  
My nose is sunburned, my nails are  
a fright.

Don't worry about me, I'm quite all right.  
Alma Davis (Mrs. J. S.)  
Rt. 1, Arden, N. C.

# JAROSITE FROM NATRONA COUNTY, WYOMING

By RICHARD S. MITCHELL

Department of Geology, University of Virginia, Charlottesville, Virginia

Earthy yellow coatings of jarosite,  $KFe_3(SO_4)_2(OH)_6$ , on dark-gray shale, have recently been noted in Natrona County, Wyoming. Although several occurrences of this mineral are known in the United States, a note on this locality seems worthwhile.

The specimens studied were collected on State Highway 220, approximately a mile northeast of Goose Egg, where the road cuts through shale and goes up-grade. The occurrence is approximately 10 miles southwest of Casper.

This jarosite was initially identified by the x-ray powder method. The observed data (Table I) compare very favorably with data from the type locality at Barranco Jaroso, Almeria, Spain (1). Also a good relationship between these data and data for natrojarosite from Montana-Wyoming (2) was noted. The observed hexagonal unit cell constants are approximately  $a_0 = 7.3$  Å,  $c_0 = 17.2$  Å;  $a_0:c_0 = 1:2.36$ . Cameras of 11.46 cm. diameter, with FeKa radiation, were used in these determinations. In addition to the x-ray work, positive qualitative blowpipe tests were obtained for the chemical elements present in jarosite.

The jarosite occurs as yellow, dull, pulverulent coatings, less than a mm. in thickness, in fractures in a dark-gray, massive, siliceous shale. The shale probably belongs to the Mowry formation of Upper Cretaceous age (3). X-ray determinations show that the shale is composed of considerable quartz along with a clay mineral which is probably kaolinite. It is easily broken into blocky masses, and weathers to a light-gray or yellowish color. Dark-brown stains and coatings of limonite are intimately associated with the jarosite and probably represent oxidation of it. Crusts of selenite gypsum also occur on the shale. There appears to be no constant close association of this sulfate with jarosite, as one might expect.

Mr. W. F. Giannini, Geology Department, University of Virginia, assisted the writer in the laboratory study of these materials.

## References

- (1) American Society for Testing Materials, X-ray Powder Data File, card number 2-0602.
- (2) Mitchell, R.S. and Giannini, W.F. (1958). Natrojarosite from near the Montana-Wyoming Line: *Am. Mineral.*, 43 (1205-1210).
- (3) Krampert, E. W., Consulting Geologist, Casper, Wyoming: a personal communication.

Table I. X-ray powder data on jarosite from Natrona County, Wyoming. Observed values represent an average of two films.

hkl	d (Å)	I°
10.1	5.98	
00.3	5.72	
01.2	5.08	B
11.0	3.66	
02.1	3.11	A
11.3	3.08	A
20.2	2.96	
00.6	2.87	
02.4	2.55	
10.7	2.29	C
30.3	1.98	D
00.9	1.92	
**	1.82	E
	1.56	
	1.54	
	1.51	
	1.34	
	1.25	

\* Letters represent the order of intensity, in which A is strongest.

\*\* The lines were not indexed for spacings smaller than 1.92 Å.



# WORLD NEWS ON Mineral Occurrences

ITEMS ON NEW FINDS ARE DESIRED  
PLEASE SEND THEM IN.

Abbreviations: xl—crystal  
fl—fluoresces

xled—crystallized  
ph—phosphoresces  
xline—crystalline

**ALABAMA**—On one of the old gold mines near Cragford, Clay Co., Ala., native gold has been found in quartz.

**ALASKA**—Jack Moffitt, 1475 E. University, Springfield, Mo., in his letter dated March 1, 1959, writes:

"Please find enclosed \$3.00 for a one year subscription to your fine magazine. I was a subscriber back in 1951 & 1952, however left for Alaska and up there one never seems to find time to read. I did get some beautiful cinnabar specimens from the Red Devil Mine, copper nuggets from the Kennecott mine, etc. and I can assure you that the known minerals there and their volume are only a scratch to what is yet to be found. I have seen fist size lumps of pure scheelite very high grade and so many others that would make your head spin. I am back now and settling here in Springfield, Mo."

Please, Mr. Moffitt, send us some more notes on Alaskan minerals and their localities.

**ARIZONA**—At the Rocky Mt. Convention, held in Wichita, Kans., April 24-26, 1959, we met many good friends of R&M, one of whom was Mrs. Katherine Trapnell, 1905 E. Roma, Phoenix, Ariz. As a memento of the occasion, Mrs. Trapnell donated to R&M a very fine specimen of white gypsum pseudo glauberite xls. The specimen comes from Camp Verde, Yavapai Co., Ariz.

**ARKANSAS**—Corbins, Box 261, Morriston, Ark., sent in a lustrous cleavage mass of lead-gray galena whose locality is Lead Hill, Boone Co., Ark.

**CALIFORNIA**—Petro Specialties, Box 188, Woodland Hills, Calif., sent us a choice specimen of whitish scheelite and pale greenish-yellow powellite on white xline dolomite. Powellite is an incrustation on the scheelite which in turn incrusts the dolomite. Powellite fl. yellow, scheelite fl. blue.

"The specimen is from one of the numerous tungsten mines in the Darwin, Inyo County, California, area."—note from James H. Richardson of Petro Specialties.

**COLORADO**—John W. Cholson, 2155 So. Waco, Wichita 11, Kans., was one of the many friends of R&M present at the Rocky Convention held in Wichita, Kans., April 24-26, 1959. He had with him a 3x3 inch specimen consisting of  $\frac{1}{4}$  to  $\frac{1}{2}$  inch bright lustrous pyrite cubes with beveled edges associated with pale brown xled dolomite on xline pyritic rock. The locality for the specimen was Central City, Gilpin Co., Colo.

**CONNECTICUT**—"I am sending you a specimen I chipped out of blasted ledge higher up from where the two men were killed in the railroad rock cut at the Thomaston Dam, Thomaston (Litchfield Co.), Conn. You were there

and know the locality. This is where the new 4 lane Route 8 begins."—letter dated March 17, 1959, from Herbert H. Baldwin, RR 2, Paper Mill Road, Harwinton, Conn.

The specimen is a grayish-green diopside in massive smoky quartz. Tiny brassy-yellow pyrite xls, tiny brownish titanite (sphene) xls, and small masses of dark bronzy-yellow pyrrhotite are present in the specimen.

See "Minerals at Thomaston Dam, Conn." by Peter Zodac, in Jan-Feb, 1959, R&M, pp. 3-4.

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**DELAWARE**—Nice pebbles of brown jasper have been found on the south side of Indian River Inlet, Sussex Co., Del., by Bob and Hazel Reynolds, Stockdale Rd., Kingsville, Md.

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**FLORIDA**—At the Rocky Mt. Convention held in Wichita, Kans., April 24-26, 1959, we saw many beautiful minerals that were on display. One beautiful mineral that was not on display was a 15 inch long, gray coral geode whose interior was gray chalcedony coated with white drusy quartz. This fine specimen belonged to Mr. & Mrs. John Roder, Rt. 7, Box 114, Hot Springs, Ark.

The geode was found near Ocala, Marion Co., Fla.

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**GEORGIA**—"Several interesting minerals have been encountered in a railroad cut in dark-green amphibolite, one-half mile northeast of the Lockheed Reactor on the south bank of the Etowah River, in Dawson County, Ga.

Chatoyant masses of olive-gray tourmaline are found in oligoclase-quartz veins. The masses are pod-like and up to 4 inches thick. Microscopic examination shows fibrous dark-green tourmaline crystals in roughly parallel orientation.

"Along zones where the amphibolite has been altered to blue-green chlorite there are red garnets up to  $\frac{1}{2}$  inch in diameter. The garnets are un-weathered

but are too fractured to be of gem quality.

"Dark green hornblende prisms are visible as felted needles on many of the amphibolite surfaces. Where the amphibolite has been chloritized, the hornblende is generally coarser, and may occur in prisms as much as 1 $\frac{1}{2}$  inches long. The stoutest crystal seen is  $\frac{1}{4}$  inch thick.

"White coarsely granular calcite forms thin lenticular masses conformable to the schistosity of the amphibolite. White zeolite, which is mostly fine-grained, coats fracture surfaces. Small, felted masses of yellowish alum have formed in recesses from the evaporation of drip water."—Mineralogical notes by Vernon J. Hurst, Georgia Newsletter, Summer 1958, p. 48 (Published by the Georgia Geological Survey, 19 Hunter St., Atlanta, Ga.—A.S. Furcron, Editor).

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**IDAHO**—A thin slab of polished, light brown plume agate (very nice) was received recently from Manuel T. Lee, 496 Morris Ave., Boonton, N.J.

"I found this specimen at Graveyard Point In Owyhee County, Idaho, in 1957."—on label accompanying the agate.

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**ILLINOIS**—Brownish bog ore (limonite) occur near Elizabethtown (Hardin Co.), Ill.

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**INDIANA**—Pebbles containing smoky gray labradorite have been found near Danville, Hendricks Co., Ind.

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**IOWA**—Dark brown coarse xline masses of sphalerite with a little xline white calcite in or on lepidodendrons which is beneath a 5 foot vein of coal occurs at a coal strip mine near Melrose, Monroe Co., Iowa. Found by Michael Papcun, RR 1, Melrose, Iowa.

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**KANSAS**—One of our good subscribers, Peter Stein, 1306 W. 5th St., Coffeyville Kans., was in attendance at the Rocky Mt. Federation Convention

held in Wichita, Kans., April 24-26, 1959, and it was a pleasure to meet him. To our keen delight he presented us with two beautiful specimens which came from the Ballard Mine, Baxter Springs, Cherokee Co., Kans. One of the specimens consisted of deep red gemmy xls of sphalerite (ruby zinc) on gray chert.

**KENTUCKY**—Sfc. William J. Malarky, 81 Cliff St., Pittston, Pa., who was stationed at Fort Knox (Hardin Co.), Ky., not long ago sends in the following item:

"There are many limestone quarries on the Fort Knox Reservation which contain vugs of golden brown calcite xls, alabaster, selenite and satin spar. The selenite xls on white gypsum were found in vugs in one particular quarry on the Reservation, although other quarries contain them also."

**LOUISIANA**—Dark reddish hematite has been found in brownish limonite geodes at Caddo Lake, Caddo Parish, La.

**MAINE**—"I am sending you a specimen of yellow cancrinite from Litchfield (Kennebec Co.), Maine. Do hope you like it."—item sent in by Henry P. Donnell, RFD 1, West Bath, Me.

A very nice specimen was received consisting of bright yellow cancrinite in gray nephelite-syenite. This nephelite-syenite is called litchfieldite because its chief feldspar is albite and which differ therein from normal nephelite (see photo p. 109 March-April 1959, R&M).

**MARYLAND**—Zelma H. Wright, Jr., 3105 Dundalk Ave., Baltimore 22, Md., sent in an odd pyrite concretion which he found in Baltimore County, Md. It consists of dark bronzy-black pyrite imbedded in dark gray "sand" and coated by yellow clay (a concretion within a concretion).

**MASSACHUSETTS**—Joseph O. Matt-

son, 153 High St., Fitchburg, Mass., sent in a specimen which he had collected from a road cut west of new bridge on Rte. 2, Wendell Depot (Franklin Co.), Mass. The specimen consists of a whitish crust of hyalite (opal) coating pinkish granite. The hyalite fl. green.

**MICHIGAN**—"I am enclosing two specimens which is a new find at the Champion Mine at Beacon (Marquette Co.), Mich. One may be gypsum and pyrite and the other ilmenite on rhodochrosite and quartz. Could you tell me if I am right."—item sent in by Carl H. Lemkin, 624 E. Division St., Ishpeming, Mich.

Yes, in both cases. The first consists of lustrous brassy-yellow pyrite xls in a purplish lustrous gypsum. The second consists of lustrous black plates of ilmenite on xline, pinkish rhodochrosite and massive pale smoky quartz. Both are very attractive specimens.

**MINNESOTA**—Along the shores of Martin Lake, Martin Co., Minn., nice pebbles can be found of dark brown petrified wood.

**MISSISSIPPI**—On the beach at Biloxi, Harrison Co., Miss., gray chert pebbles encrusted with whitish cachelong opal have been found.

**MISSOURI**—Nice platy white masses of barite have been found around Potosi, Washington Co., Mo.

**MONTANA**—In Whitehall, Mont. (Jefferson County) large black tourmaline xls in a white unidentified mineral have been found. Titanite (sphene) in large, rounded, platy xls are associated with the tourmaline."—item sent in by Gerald Navratil, Box 70, Middleburgh, N.Y., who has spent many summers in the northwest.

**NEBRASKA**—From Bayard (Morrill Co.), Nebr., we have a moss opal slab (white opal full of black dendrites). In center of slab is a moss agate (dark

gray chalcedony full of black dendrites). This fine specimen was sent in by Irl Everett, prop. of Everett Lapidary Shop, 2941 N. 65th St., Lincoln 5, Nebr.

NEVADA—"Lake Lahontan. This reservoir is of great geological interest inasmuch as Lake Lahontan covered much of Eastern California and Western Nevada at one time. The lake finally receded leaving fossils of sea animals and tropical plants in the middle of deserts. Of this lake, numerous smaller lakes famous in their own rights still exist."—item sent by A/2c Lawrence E. Wright, 55 PMS, Box 119, Forbes AFB, Kans. Mr. Wright's home is in Carson City, Nev.

The area mentioned above is in western Nevada.

NEW HAMPSHIRE—"If ignorance is bliss, I should be very happy. I am just a beginner so everything looks alike to me.

"I am enclosing a rock found with many others on the road to the Ruggles Mine, Grafton. (Grafton Co.), N.H. Someone told me it was *Muckite* which sounds like some local name for it. What does it consist of really?"—letter received from Mrs. W. S. Rhoades, Grafton, N.H.

You need not be ashamed of this specimen as it is a very rich ore of uranium. It consists of small black masses of uraninite with orange gummite and yellowish uranophane (all uranium minerals) with a whitish feldspar. Do hope you collected a big lot of this material as it is a good one and due to its coloring, most attractive.

*Muckite* is a name given in ridicule to something worthless and of no value.

NEW JERSEY—The following item, dated Feb. 17, 1959, was sent in by John H. Bertrand. 301 N. 10th St., Easton, Pa.

"The New Jersey Highway Dept. plans to make a very deep cut thru the heart of Jugtown Mt., just east of Bloomsbury, N.J., on Route 22 some miles west of Clinton, N.J. Work is to

start in spring. I hope to keep an eye on what shows up as work progresses, and also to keep a photo record."

Please send us notes on any interesting minerals that may show up, Mr. Bertrand.

The site of the new road cut is in western Hunterdon County, N.J.

NEW MEXICO—Another good subscriber that we had the pleasure of meeting again and at the Rocky Mt. Convention held in Wichita, Kans., April 24-26, 1959, was Mrs. Lois Heister, 2628 Charleston N.E., Albuquerque, N. Mex. Mrs. Heister is a dealer and she had a nice display of most attractive minerals. She presented us with a beautiful group of large, brassy-yellow chalcopyrite xls which she had personally collected. The specimen comes from an old copper mine, the San Pedro Mine near Golden, Santa Fe Co., N. Mex. These chalcopyrite xls were very black, and unrecognizable when found and so they had to be cleaned to bring out their true color, beauty and form.

NEW YORK—Some few weeks ago, Don Presher, Montrose, N.Y. (Pres. of the R&MA) while on a trip to Portchester (Westchester Co., N.Y.) took time out to examine the rocks blasted for the new Throughway which goes through that city. The rock was all serpentine (greenish, reddish) but in one spot, almost underneath Ridge Street Bridge—to the west, he found a seam of orange-brown deweylite and collected some nice specimens.

NORTH CAROLINA—"I am sending you two specimens of chalcedony from what I take to be a new location. I would like your opinion of this. I am a beginner at this collecting business, and if you think other collectors would be interested in this material I would be happy to do some trading. A note for anyone writing me, I have only 8 or 10 lbs. left, in fist sized and smaller pieces, so first come, first served.

"This material came from a small road

cut about 3 miles N by N.W. of Elkin (Surry Co.), N.C. The cut is on a small rural road with very little traffic. Some of the best pieces came from a small garden right beside a residence. Still, strangely enough, there have been only a few collectors there over the years. No one seems to know it's there. The few pieces I have had friends cut seem to be very nice, except there are a few pits in some pieces."—letter dated April 3, 1959, from Max Freeze, WBRM, P.O. Box 152, Marion, N.C.

The material received is very nice and of good quality—brownish chalcedony, one a slab and the other a botryoidal mass which is encrusted by white cacholong opal. Try again Mr. Freeze, to find some more of this good material.

**NORTH DAKOTA**—Florence Newsom, Hurdfield, N.D., sent in a nice dark gray granite with lustrous black biotite she had found on her farm. Hurdfield is in S.W. Wells County which is in Central North Dakota.

**OHIO**—The following clipping taken from the *New York Herald Tribune*, was sent in by Raymond Conover, P.O. Box 133, Stone Ridge, Ohio.

#### New Salt Mine First in 25 Years

**PAINESVILLE**, Ohio, Mar. 24, 1959 (AP).—Morton Salt Co. today formally opened a new mine at near-by Fairport Harbor, (Lake Co., Ohio). By fall the company expects to be getting 300 tons of rock salt an hour from a 200,000,000-ton deposit 2,000 feet underground.

Under construction for three years at a cost of over \$6,000,000, the installation is the deepest salt mine in the nation, the first to be opened in Ohio since 1901 and the first in the United States in twenty-five years.

The salt strata tapped extends from Sandusky into western Pennsylvania and south from Lake Erie into West Virginia. Geologists say it was formed 300,000,000 years ago by evaporation of an inland sea.

The room-and-pillars method of salt mining Morton will use in its Fairport mine will leave about half the salt in place as a natural support for tunnels which eventually will comprise a five-mile network extending under Lake Erie.

**OKLAHOMA**—At the Rocky Mt. Convention held in Wichita, Kans., April 24-26, 1959, it was our good fortune in meeting for the first time, Mr. & Mrs. Ned Kennedy, 737 W. Kansas, Blackwell, Okla. As a memento of the meeting, the Kennedys presented the Editor with a very fine specimen of desert rose (group of thin platy, brownish seLENite xls). The specimen came from the Great Salt Plains near Cherokee, Alfalfa Co., Okla.

This was the finest desert rose the Editor ever saw and because of its fragility he did not dare mail it home, nor even pack it in his bag. The specimen was carried all the way—from Wichita to Lincoln, Nebr., to Little Rock, Ark., to Memphis, Tenn., to New York City; and thence to Peekskill, N.Y. It is now one of the most treasured specimens in the Editor's collection.

**OREGON**—The following item was sent in by L. A. Davin, Rt. 1, Box 120, Walla Walla, Wash.

Enclosed is a photo of a set of bookends that I made from a thunderegg from Sucker Creek Canyon which is South of Adrian (Malheur Co.), Oregon. The day I dug out this thunderegg it was about 110 degrees in the shade and no shade. I was wandering around about 1 mile from the road when I came upon an outcropping of agate in a small wash and I started to dig. I was very lucky as I came upon a small pocket of thundereggs and managed to uncover approximately 100 pounds of them, this being the largest of 28" in diameter and weighing about 20 pounds, the balance were about the size of a baseball down to golf ball. I was thoroughly exhausted by the time I got back to my car dragging and carrying all this weight. The

rhylite covering is brownish while the agate is of a bluish cast with the center of sparkling crystals."

**PENNSYLVANIA**—"I thought I would send in a little note for your World News on Mineral Occurrences column.

"About one half mile away from my house here in Lincoln Park, Berks County, Pa., there is an old Iron mine which hasn't been used for quite a number of years. Apparently it produced limonite or goethite because of the fragments and geode sections found there. In the dump lie almost a countless number of geodes and vugs of goethite. On a trip down once to the mine I found a geode that is about 12 inches long and about 3 inches in diameter, and one 6 inches in diameter which when I cracked it open was one of the most dazzling things I have ever seen. If anyone wants some they can write to me and I will send them specimens (if they

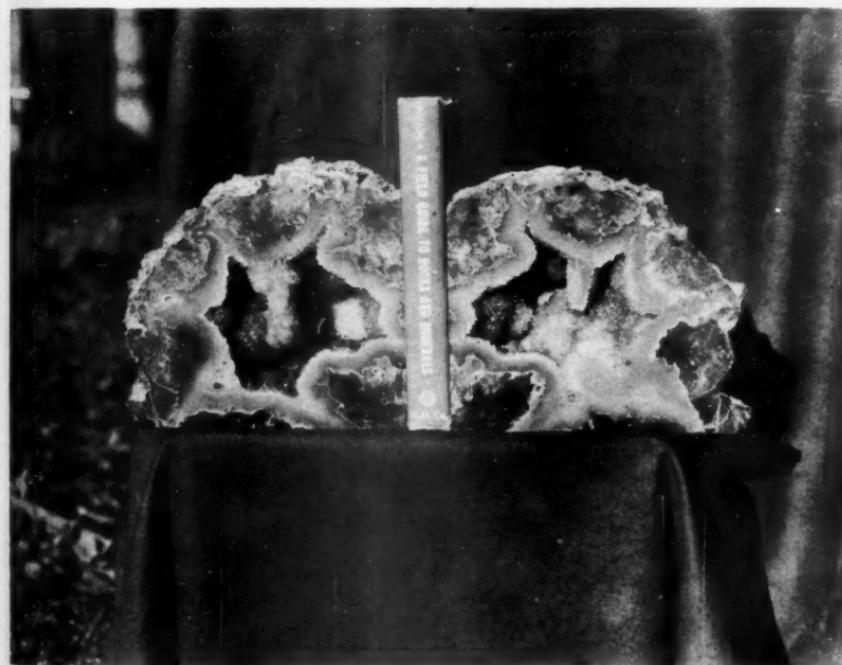
pay postage)."—letter dated Feb. 12, 1959, from Walter Leis, 516 Fritztown Rd., West Lawn, Pa.

**RHODE ISLAND**—Small rock xls have been found all around Portsmouth, Newport Co., R.I.

**SOUTH CAROLINA**—W.J. Martin, Jr. 217 Forest St., Greer, S.C., has found a number of interesting minerals around his city—one is a grayish-green foliated mass of pyrophyllite (stained brown by iron).

"Found as float in Greer, Greenville Co., S.C. "—on label.

**SOUTH DAKOTA**—The Homestake Mine in Lead, Lawrence Co., S.D., is the largest producing gold mine in the United States. About 16 million dollars in gold is taken out annually. The ore consists of cummingtonite, ankerite, garnet, mica, pyrite, pyrrhotite, arsenopyrite, magnetite, etc.



Thunderegg bookends from Sucker Creek Canyon which is just south of Adrian, Ore.

TENNESSEE—Barite, galena, fluorite, limonite, and pyrite occur in the barite pits at Sweetwater, Monroe Co., Tenn.

TEXAS—"I have found 28 beautiful tektites 7 miles south of Gonzales (Gonzales Co.), Texas. They have been verified by the State of Texas; Mr. Barnes has been here and he made a survey of the locality.

"I put one of the tektites to a test myself with a welding torch and it turned red but did not melt.

"If you care to print this item in R&M be sure to mention the welding torch so interested collectors will know that the material is really tektites—tektites will turn red while other glassy material will break under fire."—letter dated March 24, 1959, from W. A. Mang (Mang's Rock Shop), 515 Jobe St., Gonzales, Texas.

UTAH—From Radium King Mine, in White Canyon, San Juan Co., Utah, we have a 2x3 inch specimen of deep black pitchblende stained by bluish-greenish copper sulphides—one end shows blackish compact-fibrous tree-structure. The specimen is a very attractive one and was sent in by Pat Fancher, Box 63, Ouray, Colo.

"This is not my best pitchblende of course but I chose it because it shows the copper sulphides and carbonaceous tree which I described in my article ("White Canyon, Utah," by Patrick Fancher, pp. 240-241, May-June 1959, R&M)."—letter dated Jan. 20, 1959, from Mr. Fancher.

VERMONT—Milton E. Ailes, Box 36, West Danville, Vt., sent in an interesting specimen which he had found in Danville, Caledonia Co., Vt. The specimen is a dark gray xline limestone encrusted with gray globular crust of aragonite. The aragonite fl. yellow under the long wave.

VIRGINIA—"Some good specimens of pyrite in clear quartz can be usually

found on the dumps of the pyrite mine at Gossan, Va. This is about 8 miles from Galax (Grayson Co.), Va."—item sent in by D.D. Litteral, Box 183, Dublin Va.

WASHINGTON—We recently ran across an item sent us some months by Lt. Wm. L. Hiss (formerly of the U.S. Air Corps), now residing at 437 W. Boyd, Norman, Okla. The item reads:

"One of my assignments was at Spokane, Wash. While there I visited the old Cleveland Mine (close to the summit of the Huckleberry Mountains) in southern Stevens County, Wash., on the occasion to collect boulangerite. I picked up a few other minerals including siderite, galena, sphalerite, etc. One I had not identified before departing to England was identified by x-ray powder analysis by Dr. R. Howie at the University of Manchester as Mimetite. First I heard of it from there."

Mimetite from the Cleveland Mine has been known for many years. It occurs as tufts of minute, colorless, acicular xls lining cavities in yellow bindheimite. See "Boulangerite & Associated Minerals of the Cleveland Mine, Wash." by Charles O. Fernquist, R&M, March 1930, pp. 6-9.

WEST VIRGINIA—We need mineral notes on this state. Will readers please send us a few?

WISCONSIN—From a lead mine near Mineral Point, Iowa Co., Wisc., we have a dark brown pyritic specimen. One face of this specimen has a white band about an inch wide, which a casual glance might take as an efflorescence of white melanterite, a common occurrence on pyritic ores. Under the magnifying glass, the white band turns out to be made up of countless tiny white calcite xls.

WYOMING—Wayne R. Breitweiser, 510 N. Division, Powell, Wyo., sent in a number of tumbled-polished Dryhead

Agates which he had collected in the Dryhead area of Bighorn County in northern Wyoming. The agates are beautiful, thinly banded with parallel zigzag lines (fortification) with brown and white colors.

See Mr. Breitweiser's very fine article, "Dryhead Agates—Prize of the Fortifications", which appeared in the May-June 1959, R&M, pp. 206-209.

CANADA—Ray Conover, Box 133, Stone Ridge, N.Y., sent in a beautifully polished slab of dark gray chatoyant labradorite which comes from Tabor's Island, Labrador, Canada. Mr. Conover is a lapidary and has cut and polished many, many slabs.

Labradorite from Tabor's Island (Eskimo name is Nepoktulegatsuk) has been described in the Oct. 1935, R&M, pp. 150-151,—"Labradorite from Nepoktulegatsuk."

KOREA—Capt. Geo. W. Owens, 150 Illinois Dr., Jacksonville, Ark., has presented us with a lovely deep purple amethyst xl. It is doubly terminated and  $\frac{1}{2}$  inch in length.

The amethyst was found in pockets of rotten basalt, in conjunction with clay seams, if clay is not present there is no amethyst. Crystals occur up to 2 inches in length—scepter amethyst have also been found.

The locality is about 7 miles northeast of Kaisong, Korea, and Capt. Owens personally collected the crystal while on a recent visit to that country.

MEXICO—At the Rocky Mt. Convention held in Wichita, Kans. April 24-26, 1959, we were presented with a beautiful cleavage specimen of pink rhodochrosite. The donor of the specimen was Scott Williams, President of Scott Williams Mineral Company, 2346 S. Scottsdale Road, Scottsdale, Ariz. The rhodochrosite came from Mina El Manganesa, Imuris, south of Magdalena, Sonora, Mexico.

The Scott Williams Mineral Company

had a beautiful display of rare and attractive minerals at the convention.

SCOTLAND—Our good friend in Scotland, Sandy Ramsay, 1015 Aikenhead Road, King's Park, Glasgow S4, Scotland, has sent in another interesting item, dated March 12, 1959:

"A few weeks ago I got some prehnite from the Boylestone Quarry, Barrhead, Renfrewshire, Scotland. It is nothing very special as to size but it has an unusual appearance, as you can see by the enclosed specimen. I have never seen anything like it before, although I have come across broken elongated xls before, though but rarely. One piece I got was of a fair size so I sent it through to Dr. Watterson at the Royal Scottish Museum; he does not care, I'm afraid, for my descriptive word for these xls but prefers to call them 'prehnite stalactites.'

"I haven't enough to go around to my friends, so have none for trading, though I have picked up every tiny piece as these will make fine m/m's. Xls of prehnite are rare, without having calcite xls upon them."

A 2x3 inch specimen of pale grayish-green stalactitic prehnite was received. Tiny canals leading to the stalactites are coated with greenish-blue chrysocolla. A very attractive specimen.

SPAIN—The following note was received from Juan Montal, Plaza Sgdo Corazon 1, Vilafranca del Panades, Spain.

"About 50 years ago a Spanish source furnished several samples of anapaita but the exact locality remained unknown for many years. About a year ago a man hunting uranium ores rediscovered the anapaita which occurs in the Miocene lacustre of Prats-Sampsor, Lerida Province, Spain, as nodules in the clays, in sizes from 1" up to 3x4"." On breaking a nodule, a geode appears which is full of small but perfect, clear and clean, sharp, greenish anapaita crystals. I believe this is the most important find in Spain for over a year."

## THE MICRO-MOUNTER

Conducted by Neal Yedlin—129 Englewood Drive, New Haven, Conn.

John Canaday, P.O. Box 26, Clarkdale, Ariz., is a dealer whose interests go far beyond the realm of the casual buying and selling of mineral specimens. We have a letter from him before us, and he makes some interesting observations. Extracts are as follows:

"I have been mulling over the advantages of knowing more about my collector-customers interests and methods. Have just about decided to send out a questionnaire with my next list. I get the feeling from correspondents in various parts of the country that the standards and methods of micro-mounters are more or less local and that they vary from one part of the country to another. This could explain to some degree why a top-grade collection from one section of the country does not make the grade when entered in competition in another area. Here in Phoenix (Arizona) the emphasis on judging seems to be the size of the specimen, and every year the specimens seem to get smaller and smaller. This year the winners required magnification even to see the specimen, let alone the xls. Other areas have the collectors mounting specimens that just barely squeeze into a micro-box, and these are considered tops. It would be interesting to see if any trends did develop in a statistical analysis of a nationwide survey.

"At the rate we are getting inquiries to our ads, I think that in another six months we will have been in contact with most of the micro-mounters in the U.S. We've already corresponded with more than I ever thought were scattered across the nation.

"Micro-mounting still seems to be in the formative stage as a hobby, and perhaps the results of a survey and some editorializing on your part could do a lot to help it get over some of its

growing pains, and help prevent a repeat of some of the incidents that have happened in the past to cause misunderstanding between groups."

A survey might be in order. However, we personally are not in favor of judgments based on inadequately gathered statistics. If everyone were contacted, and responded, perhaps the results might be of value. "Random Handfulls" as a method of scientific approach have proven accurate in a great many instances, and are S.O.P. throughout the statistical industry. But look at what happened to the now-defunct Literary Digest as a result of its findings in the Truman-Dewey presidential contest. How often have you wondered too, at a fine T.V. program leaving the air because a set of pseudo-official figures disclosed that too few people were watching?

It has been the experience of so many that those who answer questionnaires are those "against". A hundred people receive a service. Six are dissatisfied with it. A questionnaire is sent out. Those who are satisfied and comfortable don't get around to answering. The unhappy ones protest vigorously. Ten answers come in, six of which are unfavorable. The boys in charge of numbers then come up with the figures that the service is no good; that 60% of the users don't like it.

But it should be of interest to get a cross section of the m/m methods and techniques throughout the country.

May 14th we attended a meeting of the North Jersey Mineralogical Society at Paterson, N.J., where we encountered many of our old friends and met new ones. Our talk was on basic m/m collecting, and the interest shown was gratifying. In addition to members of the home club, visitors from the New

York, Queens, Newark, Philadelphia, Pennsylvania and Baltimore clubs attended.

After discussing the early history and modern techniques, we projected some 140 kodachrome slides of m/ms taken through a microscope. This is an ideal way of showing form, habit, color, association, and indicating what can be obtained in the line of specimens by any good m/m collector. H. Allan Mitchell displayed a specimen trimmer made of a hand rivet apparatus, whose round punch and receiver were replaced by chisel edges. Gene Vitali had some marvelous uranophane "sunbursts" in mica from Upper Merryall, Conn. We showed some old m/ms, among them mounts from Rakestraw, Fiss, Bement, Wills, Grenzig and Jefferis. A wonderful evening.

As we write this—May 27, 1959—we've just received word of the annual 2-day m/m symposium of the Baltimore Mineral Society. This year it is being held at Wm. Lemmel Jr. High School in Baltimore on September 12th and 13th. Fine facilities, labs and equipment available. The speakers will be top men in various fields of mineralogy and mineralogical investigation. A panel discussion group is being set up. There will be the usual work-shop sessions, swap sessions, and just plain old fashioned bull sessions. A good crowd from all over the U.S. is expected. We'd personally like to greet you there, too. Notices and directions will be found elsewhere in this magazine. Or write to Art Goodwin, Chairman. P.O. Box 3758 Baltimore 17, Md.

So far we haven't said anything about minerals. Let's see. Albanese has acquired and is disposing of a tremendous quantity of Franklin, N.J. minerals. Some are most unusual—from the old Parker shaft—showing the paragenesis of the ores at this locality. Some show beautiful hancockite, axinite, gageite, clinohedrite and others in m/m quality. Send for his list, and please include postage. His ad is in this issue of ROCKS AND MINERALS.

Scott Williams continues to come up

with startlers. His list for May includes such items as orpiment from Macedonia, Baja California dioprase, metavariscite from Utah, cotunnite from Vesuvius, Norwegian diasporite and others.

R. Romanella, a gem dealer, 22 W. 48 St., New York City, has some excellent micro diamonds, showing many forms and habits, and reasonable in price. Read the ads in ROCKS AND MINERALS carefully. Clues to good m/m specimens are always turning up.

When this appears in the magazine many of you will be vacationing in mineral producing areas. If you get to Newry, Maine, may we remind you to look for druses and xls of a purple mineral, tetragonal pyramidal in form, on albite, and associated with the brown phosphates roscherite and eosphorite. A new mineral is in the offing, only awaiting enough material for an accurate chemical analysis. Please.

Over the years we've done some good swapping with Morry Kissileff, 329 Crest Park Rd., Philadelphia, Pa. Kissileff was an intimate friend of the late Sam Gordon of the Philadelphia Academy of Sciences. He accompanied Gordon on many of his field trips and has a fine collection of m/ms. It is rich in the minerals of the Andes, for Gordon headed 2 expeditions to South America. You'll meet Kissileff at the Baltimore symposium in September.

And by the way, if you want a good book, get Gordon's "Minerals of LLallagua, Bolivia." It is available at the Academy of Natural Sciences at Philadelphia. Price about \$3.00. Photographs, sketches, diagrams and much descriptive matter. Clears up a lot of loose ends relating to the minerals found there. And anything aiding and abetting the identifying of minerals is a must.

With all the new computers and related automatic gadgets isn't it about time that someone came up with a mineral identifier? We just can't wait for the time when we can put a fragment of an unknown in a slot, insert a coin, punch a button, and receive a card with our fortune, weight and the name of the mineral. No home should be without one!



## THE SAND COLLECTOR

CONDUCTED BY PETER ZODAC  
PEEKSKILL, N.Y.

### **Magnetite sand from Downieville, Calif.**

This is a lustrous black, fine grained sand. It consists chiefly of lustrous black magnetite with small amounts of smoky quartz, green epidote, lustrous black ilmenite, and a very small amount of colorless zircon (fl. orange)—one yellow grain of gold also seen. This sample was donated by John P. Conner, Box 477, Armour, S.D.

"This sand is from the Yuba River near Downieville (Sierra Co.), Calif. I panned it from a bar in the river finding a few colors of gold. The sand is very heavy, too."—on label.

### **Beach sand from Boothbay Harbor, Me.**

Harold Poole, 315 Wadsworth Ave., Philadelphia 19, Pa., donated this sand. It is a medium grained, light gray sand consisting chiefly of colorless quartz with some sea shells (white, brown, purple).

Boothbay Harbor, in Lincoln Co., Me., is on the Atlantic Ocean.

### **Fossiliferous sand from Hiwannee, Miss.**

From an anonymous reader we have a most interesting sand sample. The sample is a black, coarse grained sand consisting entirely of fossil shells (chiefly black, some gray, brown).

"Fossiliferous sand from Chickasawhay River, Hiwannee (Wayne Co.), Miss."—on label.

### **River sand from Worden, Mont.**

From the eastern shore of Yellowstone River at Worden, Yellowstone Co., Mont., we have a sand sample that was

collected for us by Ray S. Stratton, Worden, Mont. The sample is a medium grained, dark gray sand. It consists chiefly of quartz (colorless, smoky, brownish, reddish) with black magnetite and a small amount of green epidote, pinkish feldspar, silvery muscovite, etc.

### **Ilmenite sand from Avalon, N.J.**

From Avalon, which is on the N/E tip of a long island of eastern Cape May County, N.J., we have an interesting sand sample that was sent us by D.K. Chalmers, 1644 Oak Ave., Haddon Heights, N.J.

The sample is a fine grained, black sand. It consists chiefly of black, lustrous ilmenite and reddish garnet with smaller amounts of colorless quartz, green epidote, and tiny amounts of black, lustrous magnetite and colorless zircon (fl. orange).

### **Oil sand from Turner Falls, Okla.**

Glen E. Kiser, the well known sand collector from Douglass, Kans., has donated an interesting sand sample. The sample is a fine grained, brownish sand which consists entirely of quartz (colorless with a brownish tinge which is due to oil). The sample (Tulip Creek oil sand) comes from Turner Falls, Murray County, Okla.

"The Tulip Creek oil sand, known as the Lower Bromide Sand, comes to the surface a few miles south of Turner Falls along Hiway 77, in Oklahoma. Along this highway the Geological Survey has marked all formations, which are deep oil sands in other parts, but surface there."—on label.

#### **Asphalt sand from near Uvalde, Texas**

Another interesting sand, a type which we never saw before, was sent us by Mrs. Ruby Renfro, 2901 Bomar Ave., Fort Worth 3, Texas. This new sample is an asphalt sand, coarse grained and brownish-black. It consists of brownish limestone and black asphalt (all rounded grains).

"This sand comes from the Asphalt Mine, 14 miles S/W of Uvalde, Uvalde Co., Texas."—on label.

#### **Flour sand from Randolph, Vt.**

All sands are of interest, some exceptionally so. Here is a sample that is so fine grained that it resembles flour in appearance and so is called flour sand. This extremely fine grained, gray sand consists of colorless quartz, silvery muscovite, and gray clay. It was sent in by George W. Lowe, RD 1, Randolph (Orange Co.), Vt.

"I am sending you a sample of earth that may be sand but looks more like a powder because of its fineness. I find this in layers of 3 to 4 inches in thickness at several places on this farm. Perhaps it may be of interest."—on label.

#### **Creek sand from near Eganville, Ont., Canada**

This is a coarse grained, dark gray sand. It consists of quartz (colorless, smoky), pinkish feldspar, black magnetite, blackish mica, and brownish clay. Donated by E.J. Talamini, 164 Chestnut St., Kearny, N.J.

"Sand from Constance Creek, about 7 miles south of Eganville, Ont. Canada."—on label.

#### **Beach sand from Guanabo, Cuba**

"I remember you collect sand and so here is some from Cuba. It came from Guanabo Beach, Cuba. I believe this is just a few miles east of Havana."—on label of sand that was sent in by Sylvia Czayo, U.S. Dept. of State, Foreign Service Inspection Corps., Washington 25, D.C.

The sample is a very fine grained, gray sand. It consists of coral (white,

gray, pink) and sea shells (white, gray, pink) with a tiny amount of black magnetite. Some of the shells fl. pale lemon yellow.

#### **Beach sand from Redgate, Devon, England**

Sandy Ramsay, 1015 Aikenhead Rd., Kings Park, Glasgow S4, Scotland, sent in this sample which is a coarse grained, reddish sand consisting chiefly of red sandstone and quartz (reddish, white, colorless) with some sea shells (white, brown). A tiny amount of black magnetite also present.

"Beach sand from the small holiday resort. Redgate, Devon, England. Collected by my friend, John Coulter. Redgate is on the English Channel, not far from Torquay."—on label.

#### **Obsidian sand from Punalua, Hawaii**

Punalua is on the southern coast of the big island of Hawaii (the largest of the Hawaiian group). From the beach here we have a sand sample that was collected for us by Paul O. Drury, P.O. Box 1028, Las Vegas, Nev., when he visited the islands some months ago.

The sample is a lustrous black, medium grained sand consisting chiefly of lustrous black glassy obsidian with a tiny amount of dull black magnetite.

"Beach sand from Punalua Beach, Kau District, Island of Hawaii."—on label.

#### **River sand from Rome, Italy**

Mr. & Mrs. Paul O. Drury, P.O. Box 1028, Las Vegas, Nev., recently returned home from a long trip that took them through the West Indies, South America, and Europe and from most of the countries visited we have sand samples that Mr. Drury personally collected for us. From Italy we have the following sand sample, which was sent from Rome.

Fine grained, dark gray river sand. Consists of quartz (colorless, smoky), black mica, and sea shells (brown, white), and a small amount of black magnetite and green olivine.

"Sand (silt washed out) from Tiber River, Rome, Italy. Taken from under

bridge of Victor Emanuel which crosses Tiber about 200 yards from Castel San Angelo."—on label.

#### **Building sand from Vaduz, Lichtenstein**

Another sand sample collected for us by Mr. Drury (see above item on Italy) was this dark gray, medium grained sand. It consists of dark gray limestone, colorless to smoky quartz, and a very small amount of black magnetite.

"Sand taken from building job at Vaduz, Capital of Lichtenstein. Unquestionably from the Rhine River which begins near the St. Gothard Pass in Switzerland and flows through the Lichtenstein Valley."—on label.

Vaduz is on the east bank of the Rhine River.

#### **Beach sand from Chimbote, Peru**

One of the first sand samples sent us by Mr. Drury while on his recent trip (see Italy above) was this one which is a fine grained, light brown sand. It consists of brown sea shells, colorless quartz, and a tiny amount of black magnetite.

"Sand from Hotel Chimu private beach, Chimbote Bay, Chimbote, Peru."—on label.

#### **Gold bearing sand from Helmsdale, Scotland**

"I was hoping to have some gold bearing sand to send you. Well last week I hunted up Hugh McCullum and collected some from him. It is from Helmsdale, Sutherland, Scotland, where it was worked about 1870 by the Duke of Sutherland but was too poor to continue for anytime."—letter dated April 20, 1959, from Archie Forrest, 1381 Pollokshaws Rd., Glasgow S1, Scotland.

The sample is a brownish, medium grained sand. It consists chiefly of quartz (clear, smoky, brownish), with small amounts of lustrous black magnetite (many are complete xls or show xl faces), gemmy pink garnets (many are nice xls), some silvery muscovite flakes, and some colorless zircons that fl. orange. No gold could be spotted, though the

sample was carefully examined but a grain or two may be present!

#### **Flour sand from Passo Cadoniglio, Switzerland**

A subscriber in Switzerland who wishes to remain anonymous sent in an interesting sample of flour sand that is extremely fine grained (like flour) and gray in color. It consists chiefly of milky quartz except for some flakes of silvery-white muscovite.

"From Passo Cadoniglio, West side, Kanton Ticino, Switzerland,"—on label.

#### **They're looking for diamonds on Ben Hope**

A party of Edinburgh people will spend their holidays this summer prospecting for diamonds in Sutherlandshire.

Equipped with climbing ropes, small picks, and geological hammers, they'll explore the area around Ben Hope.

They'll carry levers to pry open cracks in the rocks, and riddles to sift small pieces of rock.

Leader of the ten people, who will make the trip during the Edinburgh trades holiday in July, will be Mr. David Rankin, 15b St. James Square, Edinburgh.

He is the founder of the Scottish Gem Club.

An Inverness member was recently exploring the area near Ben Hope, and among his finds were what appeared to be three small diamonds.

These are to be thoroughly tested.

When the Edinburgh party go to the area, each member will be given a piece of ground, and will make a close search.

Any precious stones found will be brought to the club's premises in Edinburgh.

—*The Saturday Post*, March 8, 1959.

The above item was sent in by Sandy Ramsay, 1015 Aikenhead Road, King's Park, Glasgow S4, Scotland. In his letter, dated March 12, 1959, he writes:

"I'm enclosing a cutting about the hunt for diamonds on Ben Hope. Last century, Heddle (a famous Scottish mineralogist) picked up a tiny xl there that he was sure was a diamond. This must be a follow up by some member who has read his Heddle."

Ben Hope (3041 feet high) is a mountain in the northern part of Sutherlandshire in northern Scotland. Edinburgh is the Capital of Scotland.



## WOMEN'S CORNER OF R&M

Conducted by Winnie Bourne

c/o Rocks and Minerals

Box 29, Peekskill, N. Y.

### Winnie missed at Asheville Convention

Dear Winnie:

You were missed last summer at the big Asheville, N.C., mineral show. I was looking for you and was terribly disappointed in not seeing you.

What has happened to your interesting feature? I looked for it in vain in the last few issues. I always enjoy the "Women's Corner" and hope it will be a part of R&M for a long time to come.

Mrs. Ammon Schwartzbach  
2239 Logan St.,  
Harrisburg, Penn.

The trouble lies with our readers—they seem to have deserted me.—

Winnie

### Anyone interested in thumbnails?

Dear Winnie:

About two years have passed since I sent you a couple of articles for your column and I am wondering how things are with you.

I have been doing a little travelling since I wrote you and I am wondering if some of your lady readers would be interested in thumbnail crystallized minerals. I have some beautiful specimens on hand. If any of your readers would be interested, I will gladly answer all letters sent me.

Naoma Brooks  
19419 Haynes, Apt. 5  
Reseda, Calif.

### Wants to thank all friends!

Dear Winnie:

Do so wish to thank all the friends who sent answers to my inquiry regarding a certain flower-like gem. I have enjoyed reading all the replies and information sent.

On our vacation last August, we spent

an entire two weeks walking up and down on Lake Superior beaches looking for agates and we found many nice specimens.

Mrs. Robert E. Foote  
484 Grove St.,  
Woonsocket, R.I.

### Attention Fellow Rock Hounds!

Dear Winnie:

Many of our mountain districts are financially poor but the children of these mountain schools are becoming more and more interested in rocks and minerals but have no mineral magazines to read. Perhaps in the area of many of your readers there may be schools with similar conditions. Will you try to urge your many readers to do as I have done and still am doing? Tell them to donate their back copies of R&M and other mineral magazines to such schools or to their public libraries. They will not only be doing these children a big favor but will also help to enlarge the fastest growing hobby known—mineral collecting.

Mrs. Ruth Stanley  
P.O. Thurmond 1, Box 34  
Mt. Park, N.C.

### Putting Rocks to Music!

At the Rocky Mountain Convention held in Wichita, Kans., April 24-26, 1959, one of the main attractions was some serenading done by Mrs. Mary Aspaas, Box 73, Cornville, Ariz. And her instrument was not a piano, or a cornet, or a violin—no-no-no. You would never guess it unless someone gave you a hint. Her musical instrument was made of dull, unattractive rocks! These were flat, dark gray slabs of phonolite from roughly 6 to 15 inches in length, each suspended by wrapping string from a wooden frame.

A few years ago while on a picnic to an area 25 miles from her home, Mrs. Aspaas discovered that some of the rock slabs on the site had musical tones. She gathered a number and had them erected as wind chimes in the patio of her home. Then two years ago she got the idea that if a musical scale could be made, tunes could be played on them. She experimented with the idea, using small hammers to tap out the music and her belief was a grand success.

Mrs. Aspaas and her music were a hit at the Convention! It was hard to believe that those dull, dark gray unattractive crude slabs of rock could produce such beautiful music as was heard at the Convention. You had to be there to see and hear to be convinced. When

she played, and she did it quite frequently, she always had a group of most attentive and fascinated people, young and old, crowding around her. Music has charms even if it comes from common, ordinary rocks!

We are always glad to print items such as the above. If you know of some woman who has accomplished a little out of the ordinary with rocks and minerals send me a note for printing in this column. Let us show the men that we women are pretty clever with our rocks and minerals, not only do we appreciate them for their beauty, perfection of form and other qualities so dear to a mineral collector's heart, but we can often put them to work in a way as to astonish the onlooker.—Winnie.

## FRANKLIN MINERALOGICAL ASSOCIATION

These notes are intended to acquaint the readers of *Rocks & Minerals Magazine* with the activities, objectives and principles of the Association and to explain the benefits of membership in the Franklin Mineralogical Association.

The Association was founded by a group of sincere and dedicated amateur mineral collectors who wished to both pool and to share with other collectors, regardless of geographical setting, the wealth of information concerning the minerals of the Franklin-Sterling Hill (Sussex Co.) N.J. district.

To achieve the objective of distributing the available information about these world-famous Franklin minerals, the Association publishes an attractive publication, *The Franklin Mineral Digest*. Inside the covers of the Digest are included the writings of many of America's foremost mineralogists and geologists plus the contributions of amateurs long acquainted with the minerals of the district.

In addition to the Digest, the Association maintains an ever growing library facility, via mail. Articles both for the library and the Digest are drawn from a wide variety of authoritative sources, many of these sources either no longer available nor readily accessible to the amateur through ordinary channels.

An information service is constantly maintained for the convenience of members.

Membership includes ample opportunity

to meet other FMA members—to exchange ideas, information, specimens, etc. Many members report that they have enriched not only their Franklin collections but have added many valuable specimens from other localities as well. Many new friendships have also resulted.

A membership card identifies the bearer as a member of America's first and only society dedicated to the study of the Franklin-Sterling minerals.

The Association is international in scope, with membership in about half the United States, The District of Columbia and Canada. From California to Maine and from Texas and Michigan there are members of the Association.

Membership is drawn from every walk of life and from every social and economic level—doctors, lawyers, school teachers, laborers, students, engineers, housewives, scientists, and many many more are represented. Notable among our members are: Prof. Clifford Frondel, of Harvard, and Asst. Prof. Kurt Servos, of Stanford; Mr. Peter Zodac, editor of *ROCKS AND MINERALS MAGAZINE*; Mr. Hugh A. Ford, Mr. Howard Pate and many many more, far too many to list individually.

If you are a gem, micromount, crystal, fluorescent or rare mineral collector or a combination of any of these, you will readily find others of similar tastes and interests in the Association.

(Continued on page 335)

## THE AMATEUR LAPIDARY

Conducted by Captain George W. Owens

Hq. Sq. 384th Bombardment Wing, Little Rock Air Force Base, Jacksonville, Arkansas

Amateur and professional lapidaries are cordially invited to submit contributions and so make this department of interest to all

### GLASS

Now here is a subject which may at first appear to be completely out of place in the magazine dealing with Rocks and Minerals. But believe you me, a sound knowledge of glass would have saved money for nearly everyone who reads this column.

Glass has been used to imitate gem stones since about the time that the first gem was picked out of a game trail. The early Romans were especially adept at this sort of thing—and they were taught by the Greeks who had it from the Byzantines—so the use of glass or "paste" has a long and enlightening history.

A fair knowledge of paste is necessary for any gem collector. Glass is manufactured from silica ( $\text{SiO}_2$ ), alkali, oxides of lead, boron, carbon, arsenic, etc., depending on the quality desired. Other oxides may be used to obtain specific colors.

Varieties used to imitate gems are composed of these and other raw materials and with excessive amounts of lead.

Common window glass is composed of approximately 72% silica, 13% soda, 11% lead oxide and 4% alumina. Flint glass, a high lead glass known as "Strass", is of interest because in this category is the cut glass and crystal so often sold to the unsuspecting as rock crystal, a term that should be restricted to mean exactly what it says. Many a person has paid an extra price for rock crystal tableware when in actuality, he was buying cut glass. "English crystal" is a crystal glass of this type that is used for the finest of fine tableware. It is often

ignorantly called rock crystal. All the flint glasses contain a large amount of lead and have been used as imitation gems. Coloring of glass used in imitations is produced by adding certain amounts of different metals, e.g.:

*Black*—Tin oxide and manganese

*Yellow*—Red antimony, antimony oxide, silver oxide or chloride

*Golden yellow*—Achieved by adding manganese to yellow glass

*Blue*—Cobalt oxide

*Violet*—Cobalt oxide and manganese

*Red*—Six to 12 parts chloride of gold to 100,000 parts of silica. (This is interesting in that on first cooling the glass is colorless or a light green. On reheating it quickly changes to a fine ruby red).

*Green*—Chromic oxide and copper oxide, with blue-green obtained by further adding cobalt oxide. A mixture of cobalt and antimony produces a different tone of green.

Any experiment you try will be successful if you remember to use extremely small amounts of coloring agents. (Note portions for red glass.)

In addition to ordinary paste glass some special compositions exist such as beryllium glass. These special compositions are generally made in laboratories especially for specific uses and are seldom seen in the jewelry trade. However, a small trade exists especially for the purpose of creating paste jewelry stones. By this, it is not intended to say that such paste has any great value or that it is made with the specific purpose of cheating the customer. Glass, as everyone knows, has a hardness of five

on Mohs scale. Yet paste can have a hardness as high as about seven. Special and often secret formula are used to obtain this hardness. The "Monks-stone" or Goldstone presently being offered every amateur is actually a glass imitation of aventurine quartz, which, by the way, isn't nearly as well made as the early types of this imitation. Its hardness is only five, while those pastes especially made to represent specific gems are more carefully controlled. Such paste is quite expensive compared to ordinary glass. Every effort must be made to eliminate bubbles and devitrification while controlling SC and RI. Thus materials used in the manufacture of paste must be exceptionally pure. Also the glass is not "poured" into sheets, but is molded into the shape desired and it is then either mechanically or hand polished. Moss and feathers common to some gems are also reproduced in paste. The "analysis-proof" paste has yet to be made but very high quality paste, with its expensive cost of manufacture, will pass even an expert's casual examination.

Paste is a common name which by custom has been applied to any of the varieties of glass used as imitation gems. Principal classes are:

**Crown glass:** Cheapest variety of paste. Made in all colors. RI will vary greatly. Usually obvious that it is a paste. Bubbles, poorly cut or even molding readily apparent. Used in cheap costume jewelry and/or ornamental work.

**Strass glass:** A silicate flint glass of high lead content. Made in all colors. RI will vary. High lead content raises the RI but usually results in a "soft" glass. When used as tableware has exceptional clearness. Value will depend on quality of cutting.

**Opaque glass:** Such materials are produced in all colors. One such "ware" in a milk white has become quite popular with collectors of antiques. It is produced by adding tin oxide, calcium phosphate or bone ash to ordinary glass. It is also used to imitate gems and some of us may have a fine turquoise in our collections which is actually

a specimen of this enamel-like opaque glass.

The so-called scientific pastes include emerald-colored glasses, which are closely controlled as to require expert examination to separate them from the genuine emerald.

In this classification are the various colored glasses imitating turquoise, aventurine, ruby, etc. Goldstone, including the new unnatural colors and the parti-colored or bi-colored glasses, are under this heading. Some of the newest glass—not an imitation of anything natural—will be found in our drug and department stores. Some of the weird colors and tinted mirror backs come under this heading but most are just common glass treated with various chemicals. Milady today will buy a hundred dollar gown and accent it with a dollar clip composed of pot metal and glass. Sad, but true, is the fact that not only understanding, but appreciation of gems, except the diamond, is entirely lacking in many of today's ladies of fashion.

Stained glass, imitation gems, even mirrors, mounted in pot metal or plated brass compose a goodly portion of women's jewelry and ornaments. We pride ourselves on being one of the world's most highly civilized races, yet our women will deck themselves out in "trade goods" in a fashion to rival or exceed any aborigine chief. None the less, glass, either natural or man-made has made a place for itself in the jewelry world. Some of the most beautiful of pastes have been accented by the use of acid fumes. We have all seen paste with a lovely play of iridescence. This is produced by "bathing" the cut paste in heavy acid fumes. For example, sulphur fumes will "turn" or coat paste a dirty brown color which is not readily removable.

The finest colors of emerald glass commands a fairly high price and it is not too unusual to find an occasional bit of it mounted in gold or platinum. Such glass is in a class above the common window pane but is still considered an imitation.

Glass is extensively used to make replicas of famous diamonds, in fact, such a set has only recently been offered for study purposes. Glass is also used to describe the various forms of crystals and is used in the study of crystallography. Cameos and intaglios in imitation of shell, onyx, or hematite are made. Some of these are extremely realistic and most cleverly constructed. One such, an imitation hematite, is so finely produced as to defy any casual examination. Glass is usually poured into molds for use as imitation gems. However, it may be in blocks or chunks. Remember that the internal structure of glass is amorphous. It has a vitreous luster which may be intentionally disguised. High polish, under controlled condition, is possible. Polish can be and is affected by gases. Hardness can vary but glass or paste used in jewelry usually will be between 5 and 6%, lead glass 5, crown glass 5½, special glass, 6½-6%. Quartz glass is an average 6. It is from this glass that the best tableware is made.

Paste toughness is good and there is no cleavage. SG varies from 2.1 to a high of almost 7.0 due to the lead content.

Imitation pastes will not have double refraction or dichroism. Nearly always paste will have air bubbles included. Round spherical bubbles are not found, or very very seldom seen, in any natural gem. Natural obsidian is an exception. Gem opal of the "jelly" type will sometimes show a closed cavity.

Nearly all imitations are readily detectable and have but little or no value; however, an interesting side to your collection would be the addition of one or two such stones. They could become conversation pieces.

While no intent is made here to belittle women and their choice of jewelry, we would much rather see them decked in a choice of genuine gems than in some of the gaudy items one observes "on sale" in every store throughout the land. All in favor—give your lady a true gem as a gift this month.

Mr. Meek of 1919 West 50th Street, Tulsa, Okla., tells us that his two young sons are fast becoming advanced collectors. In an effort to encourage our youth in their collecting this column will provide a small gift to any junior collector who writes us. Anyone with a nice surplus or duplicate specimen is encouraged to send it to the Meek boys. We intend to try to list at least one junior in each issue in the future and your cooperation in sending a specimen to them is requested.

It is entirely possible in the near future that once again fine Australian sapphire will be available for cutting. During the past several years we have watched the quality of the rough material go down and the price increase. One of our good Australian friends, a splendid chap and fine lapidist, reports that he and his partner have made a strike of quality sapphire in a new area. Production is sufficient to make it a real strike and not just another "occasional find." We are requesting permission to write an article about it and hope to have some sample rough shortly. This should be good news to all who facet. Further information will be furnished those interested.

Any New England reader who has a bit of the lovely rose quartz from Whispering Pine (mine or prospect?) is requested to write us about it. Also information is requested on the location of the deposit of large zircon XLS in Canada. It is understood that these XLS are specimen only and not suitable for cutting, but that they are of unusually large size.

#### Grant to Rutgers University

New Brunswick, N.J.—Rutgers University has received an unrestricted grant of \$750 from the American Metal Company Foundation, Inc., in support of basic research in the University's Bureau of Mineral Research.

The grant will be used by William L. Loddig, associate research specialist, who is conducting research in the development of differential thermal analysis.



# Fossil Department

Short items on fossils and their localities are wanted.

Please send them to the

Fossil Department (Rocks and Minerals), Box 29, Peekskill, N.Y.



## Plea for the Fossil Department

Editor R&M:

"I am a fossil collector and have been reading the articles on fossils in your magazine. I was very sorry to note that you have dropped the fossil section of the magazine and I am sure many others will agree with me.

"You have done a great service to the American rockhound with R&M—a service that the fossil hounds need badly. In many places in this country there are no native rocks in which to find minerals but there are many interesting fossils. The real lucky collector is the one who lives where there are minerals and fossils. Fossils can be just as interesting as rocks and if the general public had a greater knowledge of both then any trip into the country could be interesting. I am sure all rockhounds would benefit by knowing more about fossils. This way many trips that are disappointing in minerals might be most rewarding if fossils are also looked for, and vice versa.

"In many instances the two are found together, as in amber. I enclose a case in point, for identification. It is a very interesting xl that has formed on fossil shells that I found along the York River at Yorktown, Virginia. I believe the xl to be gypsum.

"How about a fossil section again in your magazine with good articles about field trips in various sections of the country? All you have to do is to let the word get around and you would have more good material than you could print."

Frank D. Eastham  
Warsaw, Va.

Editor's Note:—Mr. Eastham has been a subscriber for R&M for only 1½ years and so has no knowledge that the Fossil Department has been a regular feature of R&M for over 30 years, in fact it started with our 2nd issue—Dec. 1928. The Fossil Department, however, has not appeared regularly for two reasons. 1st—there is no one in the offices of R&M who is qualified to conduct the department, and 2nd, fossil collectors seem to be too bashful to prepare articles. Now and then some fossil enthusiast will take charge and will conduct the department for 5, 10 or more issues, then having run out of ideas and articles and getting no support from readers, he drops out and we have to wait for another venturesome soul to take over. Perhaps if the Fossil Department were to be conducted along the lines of the World News on Mineral Occurrences or the Sand Collector it may be more successful, and we will try it out with this issue. Fossil collectors, please give us your support. Send us short notes on your interesting finds and please give localities. Send all notes to the Fossil Department, Rocks and Minerals, Box 29, Peekskill, N.Y.

## Florida Fossil Guide

"Not long ago I met a man at a Rock Show who later escorted us on a field trip in Florida for fossils. He has volunteered to escort any group who will get in touch with him and who are interested in fossil trips. On this particular trip I found mastodon bones, alligator teeth, manatee rib, ivory, shark's teeth, prehistoric horse teeth, and petrified wood.

"This man is a former Texan and has

resided in Florida for about 20 years and has been employed by the same phosphate company.

"Maybe you would make mention of this for the benefit of all rookhounds who might like the opportunity of looking for fossils.

"His name and address—Mr. Joe Lander, Bradley, Florida."

Mrs. H.E. Mallott  
325½ 41st St., No.  
St. Petersburg, Fla.

**Lord's Hill Fossil Corals  
near South Onondaga, N.Y.**

In 1945 the Editor of R&M made a number of collecting trips around Syracuse, N.Y., with Mr. R.L. Sylvester (145 Crest View Drive, Syracuse, N.Y.) as guide (he formerly resided at 154 Parkside Ave.). The trip was written up in the Jan-Feb. 1951 R&M, pp. 28-35. One day we headed for Lord's Hill Fossil Coral locality, taking N.Y. Route 80 out of Syracuse (milage in the city was 109.1), and headed south. Here is the item that appeared on page 32:

"We continued down the road (N.Y. 80), passing through South Onondaga (nice hamlet—119.4 miles); soon we were climbing Lord's Hill where somewhere along the road interesting fossil corals could be found. We stopped at one place (120.8 miles) to examine the terrain. No fossils were visible but lots of gravel was present—about 200 feet to the right a deep ravine was seen.

"We continued up Lord's Hill (N.Y. 80) crossed US 20 (121.6 miles) and stopped again (121.9 miles). Then we saw a sight which made our eyes bulge! For here, along both sides of the road and extending for hundreds of feet, fossil corals were present by the thousands and varying in size from tiny up to those 6 inches in length. They were embedded in soft grayish-green shale or hard mud and were in such huge amounts that the rock was barely visible. It was simply a conglomeration of fossils lying in all directions—mostly on the side or point downwards. The bottom and sides of the ditch (on both sides of the road with a lot of water flowing through it)

was simply a mass of corals, too. The banks, where bare, some places 5 feet high, were also a mass of fossils—no doubt the entire banks are likewise a mass of fossils but we could not tell as a heavy growth of grass covered them, but where bare, fossils were present. Near the top of the road banks which averaged about 6 feet high, fossils were found lying loose in the grass. Fossils were seen also in the macadamized road, in fact the road was paved with fossils. The best places to collect fossils were in and along the walls of the ditches.

"On pulling out the fossils from those lying point downwards, the points were often missing. Some fossils were easy to pull out but most of them were firmly embedded; a few were found loose. We never saw so many fossils anywhere as we did on Lord's Hill. (Dr. E.T. Apfel of Syracuse University, had told us that there are 12 forms of horn coral in the Hamilton shales on Lord's Hill).

"The view northward from Lord's Hill was very beautiful and especially from its top, a little further up (122.6 miles)."

**Selenite xls on fossil shell  
from Yorktown, Va.**

Frank D. Eastham, Warsaw, Va., sent in a most interesting specimen consisting of a group of platy, brownish selenite (gypsum) xls on a 3 inch matrix of a large, brownish fossil clam (?) shell and light brown limestone. The selenite xls fl. lemon-yellow under the long wave.

"These gypsum xls on fossil shell I found along the York River at Yorktown (York Co.), Va."—on label.

**Nova Scotia Mineral & Gem Society**

Organized in Halifax, N.S., on Nov. 11, 1958, the Nova Scotia Mineral & Gem Society now boasts a membership of over 150 members. Meetings are held at the Nova Scotia Museum of Science, Halifax, N.S., Canada.

S. C. Hood, 375 Main St. Yarmouth, N.S. is the President of the Society. Other officers are Mrs. Alexander MacAuley, Vice-President; and L. E. Rodney, Secretary-Treasurer.

**C U R R E N T E V E N T S**  
 of the  
**EASTERN FEDERATION OF MINERALOGICAL AND LAPIDARY SOCIETIES**

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 3418 Flannery Lane  
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Roy E. Clark  
 Box 607  
 Newport News, Va.

**NEXT BIG EVENT**

The American Federation of Mineralogical Societies, of which the Eastern Federation is a regional part, and the Northwest Federation of Mineralogical Societies will hold their joint Convention and NATIONAL GEM FAIR in the Public Auditorium, in Portland, Oregon, on Saturday, Sunday and Monday (Labor Day Weekend), September 5, 6 and 7, 1959. The Oregon Agate and Mineral Society is host. Mrs. Helen M. Rice, Route 3, Box 245, Hillsboro, Oregon, Vice-President of the American Federation, is Show Manager.

There will be a post convention field trip lasting at least a week. Your society, if a federation member, has been sent full information on the program and a copy of Rules Governing Competitive Exhibits. Mrs. Laura Clarke, 11526 S.E. Powell Blvd., Portland 66, Oregon, is Accommodations Chairman, and has list of available hotels, motels, camp sites and trailer parks.

**Eastern Federation Top Winners  
 Eligible to Compete Nationally**

All *first* prize winners, club and individual members, in all Eastern Federation shows are eligible to enter exhibits on the national level for prizes and the eight national trophies, our highest awards.

**Boston Show**

The ninth Annual Convention Gem and Mineral Show of the Eastern Federation hosted by the Boston Mineral Club, at the Sheraton-Plaza Hotel, in Boston, Mass., on July 16, 17 and 18, 1959, will be another wonderful milestone in our phenomenal history when this is published. Look for the full story on this event in our next issue.

Our sincere gratitude and thanks to this society; to Mrs. James M. Dearborn, General Chairman, Rev. James W. Skehan, S.J. PhD., Vice-Chairman; W. Everett Berry, President, Committee Chairmen and members who worked so hard to make it such an outstanding success.

**EASTERN FEDERATION HISTORY**

By FLORENCE M. HIGHT

*(3rd Convention continued from May-June issue of R&M)*

Mr. Wiss said three qualifications for a gem are beauty, durability and rarity. Durability means that a stone must have hardness—greater than six on Moh's scale—and toughness. If the stone is colored the color should be permanent; and the stone must be able to withstand ordinary acids and alkalies. Diamonds of course, most nearly meet all such requirements. Diamond has been estimated to be from 40 to 1200 times

as hard as corundum, although it ranks just above corundum in the hardness scale.

Mr. Wiss discussed the corundum gems, sapphire and ruby; the beryl gems, emerald, aquamarine and morganite; and the chrysoberyl with its variety, alexandrite. He said the colors are due to metallic oxides of various kinds, and that all gems if 100% pure, would be colorless.

"Why New Jersey is a Happy Hunting

"Ground for the Mineral Collector" was the title of a comprehensive paper presented by Meredith Johnson, New Jersey State Geologist.

Mr. Johnson reviewed the world-wide fame of Paterson as a locale for zeolites and other minerals and said that some 70 varieties had been listed. He praised the display of New Jersey minerals in the Paterson Museum, and suggested visits be made also, to collections in the Museum of Trenton, Princeton, and Rutgers. "What other state," he challenged, "can produce 370 varieties of minerals?"

Beginning with the southern part of the state, he mentioned many locations and what may be found in each. Farthest south are the Cape May "diamonds"—quartz crystals on the ocean beaches. Bright blue vivianite occurs, with some mica, pyrite, marcasite and lignite. Chert from Camden County makes handsome polished specimens. Quartz found near Trenton and in Monmouth County must have originated at Paterson and been carried south by glacial action and river currents. The Sayreville minerals are about 10 in number and are similar in the other claypits of Middlesex County.

Some feldspar and amphibole minerals are found, and the Manhattan schist, and serpentine out-crops at Hoboken. Red shales and sandstones from New Brunswick to the north contain copper and allied minerals, even gold in tiny amounts and some silver with the copper.

The famous Franklin zinc area numbers about 160 species. The numerous iron mines in north Jersey provide specimens from their dumps, and the limestones of Sussex county outside of Franklin produce a variety. An occurrence of nephelite—syenite with hackmanite has been discovered at Beemerville, and arsenopyrite occurs in Warren county.

Dr. Alfred C. Hawkins, practicing mineralogist and author of books on minerals, took as his subject, "Some Mineral Collecting You Have Not Done". He told how mineral collecting may be done in the kitchen sink, and also discussed many out-of-the-way locations from Rhode Island to Georgia.

He said that by evaporating salt brines one may obtain microscopic crystals of whatever minerals may have been carried in solution. He mentioned unusual pyrite cubes which occur in a pyrophyllite deposit near Glendon, North Carolina. Their characteristic is diagonal etch marks which are not found on ordinary pyrite.

A pyrrhotite deposit at Anthony's Nose,

N.Y., has a dump containing some unusual specimens. He said sulphur is again being taken from sulphide deposits as the Gulf salt domes decrease in content. It has been found that pyrrhotite retains its helium content with very little leakage, and this holds promise as a means of learning the geologic age of such deposits.

In New Jersey he recommended small streams flowing out from an old copper mine at New Brunswick as a source of nice copper minerals. Bell Mountain on the Delaware River in Mercer County affords epidote crystals and chlorite. The Preen quarry at Oldwick, formerly New Germantown, is similar to the Watchung Mountain formation but of later date, and should provide some good minerals, he said.

Dr. Hawkins has been making an investigation of the gold in Georgia centering at Dahlonega where the United States built its first mint and coined more than \$6,000,000, years ago. He said the gold occurs in decayed soil but is very fine and impossible to see. The investigation is being made with a view to resuming mining, when and if the price of gold makes it worth-while.

(to be continued)

#### What Goes With Our Clubs

*The Gem and Lapidary Society of Washington, D.C., Inc.* heard Dr. Ralph Stair, National Bureau of Standards, world authority on tektite, or agni mani, the celestial gem, speak on his theory of their origin in April. In May they journeyed to the Andrews Air Force Base, where Mrs. Marian Beachem, Director of Hobby Shops, explained the hobby and craft program of the Base, demonstrating techniques, giving each member a one lesson course in a craft.

Field trips in April and May included one to Ida, Virginia, for jasper and copper bearing rock, climbing a mile up a mountain to an old mine dump, and to an old mica mine in Virginia just north of Richmond for the other. A trip to the Texas Quarry in Baltimore County, Md., was planned for June, where "the first two hundred feet o' the softer material for the Washington Monument was quarried".

*The Mineralogical Society of the District of Columbia* planned to exhibit jointly with the lapidary society in their annual show in June. Dr. Arthur Montgomery, attached to the Dept. of Geology and Geography of Lafayette College at Easton, Pa., who has collected in fabulous spots all over the U.S.

and in Alaska at classical localities, was to speak on his "Mineral Collecting Experiences" in the epidote localities on Prince of Wales Island in southwestern Alaska, the variscite deposits of Fairfield, Utah, and the unique pegmatite deposit of Harding Mine in New Mexico, with illustrating slides. For May they had a film on atomic structure issued by Philips Electronics, Inc., and anticipated another on asbestos recently issued by the Johns-Manville Corporation.

*The Miami Mineral and Gem Society* enjoyed a movie and lecture on The Story of the Diamond at their March meeting and in May had a program of membership participation in identification of minerals. While considering plans to sponsor another project to cut stones and make jewelry for hospitalized veterans to distribute as gifts for Xmas 1959, as their project for 1957 was so successful, and preparing their club exhibit for the Boston show, they are working on a Homecoming Meeting, Swap Night and Pot-luck Supper tentatively set for September 14.

*The Georgia Mineral Society*, at Atlanta, recently had Mr. John E. Husted, Mineral Economist in Industrial Development Branch of Georgia Tech Engineering Experiment Station, and Dr. H. W. Straley, Professor of Geology and Research, Associate Engineer, Experiment Station, Georgia Tech, speak on the subject of Georgia's New Frontier. These talks were designed to place special emphasis on two subjects viz., the trend toward increasing industrialization in Georgia, and the plans for supplemental research in the field of Georgia's mineral resources and their possible more proper development and utilization. The Gem Club heard Mr. Dan Dougherty on synthetic gemstones, illustrating his talk with a display of synthetic gem materials and cut stones loaned by the Linde Company. In May Mr. Nelson Severinghaus, past President of the society, spoke on the varieties and uses of feldspar. The Gem Club had Frank Gleason speak on Gem Material Locations in Georgia, showing part of his collection from the various areas.

Field trips in April included one concerned with archaeology, a special guided tour of Ocmulgee Mounds, with another to the kaolin pits and the Tuscaloosa formation. A trip to Indian Mountain, just across the Alabama line, to hunt for rare iron phosphates, such as golden-yellow cacoxyrite, pale green dufrénite, pale rose to colorless strengite and red-brown beraunite, was arranged for May.

*The Gem Cutters Guild of Baltimore* enjoyed a delightful talk by Mr. Peter Poletti, Director of Procurement, Space Flight Division of The Martin Company, in April, on his Gemstone Hunting in New Mexico. He also showed beautiful colored slides taken on various trips he and Mrs. Poletti took there, as well as a display of the materials collected of agate, carnelian, etc. In May, Mr. Edgar A. Wengert, Display Chairman of the Guild, spoke on Problems of Cutting and Polishing. Plans for the club's display at Boston were also discussed; but are hush-hush until July 16.

A two-day field trip to Syria, Virginia, was enjoyed on the May 16th weekend, as well as the delightful food and accommodations at the Graves Farm. With perfect weather prevailing, it was a happy group that headed homeward on Sunday laden down with unakite, epidote, jasper and some blue quartz collected along the Rose River and in the Graves Mountain.

*The Boston Mineral Club*, hosting the 1959 Federation convention and show, seem to be suffering no interruption to business in their general affairs, even tho they have the same enthusiastic lady, Mrs. James M. Dearborn, for Program Chairman as for the General Show Chairman. In April they had Dr. Donald E. Chapman, Prof. of Geology at the University of New Hampshire speak. Since 1952 he has been on the staff of University Travel, leading parties thru Europe during summer months as a scientist and geographer, interpreting landscape in terms of human activity. He took them on a trip discussing the geology of the situation and showing how geology has entered into the lives of the people in such places as Vesuvius, Capri, Rome, Venice, the Po Valley, the Swiss Alps, Salzburg, the Rhine Valley among others, via beautiful kodachrome slides. In May, Dr. Mohamed Gheith of the Boston University spoke on Genesis of Iron Minerals. Their field trip committee has planned trips to various mines and mineral localities in the Northeast, securing permission for club members to collect on designated dates.

A NOTICE WE ALL SHOULD HEED. This society is backing up a Code of Ethics with stringent action... There is no "free land" or land not owned by someone in New England, whether it's an "abandoned" mine or a "dump" SOMEONE OWNS IT! Members collecting without permission (preferably written) will be asked to resign from the club. This rule applies to all.

whether you are an old white haired long time member or a dizzy little blonde that's just learned to crack a rock!

The privilege of hunting and collecting rocks and minerals on someone else's property is one we should all preserve and guard. Let not one of us come in for criticism of any kind. Too many localities have been closed to collectors because someone was thoughtless or careless.

*The Westminster Mineral Club*, of Mass., held their annual meeting in February and report receiving their charter and happy to be a full member of the Eastern Federation. Meeting on the last Thursday of each month at 7:30 P.M. in their clubhouse on Minot Road, visitors are welcome. In their annual report the society held a field trip each month when weather permitted and last season revisited many favorite locations; took two weekend trips, one to Paris-Newry area in Maine and the other to Franklin, N.J.; also spent a Sunday afternoon studying the mineral collection at Harvard; were entertained at a meeting of the Keene Mineral Club of New Hampshire and the Worcester Mineral Club. As an added project, they identified and arranged for display a collection of minerals owned by the Fitchburg Historical Society and conducted a meeting explaining the collection to its members. Individual members have conducted study groups with children, have lectured and displayed their specimens for interested groups. They are also assembling a club collection, of value for study as well as attractive to see.

In March they entertained the *Keene Mineral Club of New Hampshire*, showing a fine program of slides loaned by the *Baltimore Mineral Society*, one set on Micromounts and the other on Crystal Formation. These slides, available on loan from the Baltimore society, are described as "outstanding in beauty as well as in the clear and interesting way in which the material is presented".

*The Mississippi Gem and Mineral Society* recently concluded a 10 week (30 hours) formal course for beginners in Rocks and Minerals which they sponsored, with requests coming in for a repetition of the course next fall. They also plan to conduct summer classes for interested girls and boys as their contribution to community youth development. Congratulations to one of our new federation members for such a splendid project.

*The Antrim Area Mineral Club*, of New

Hampshire, held an open meeting for the public in April, to show just what goes on at a mineral club meeting. There was a program on gems including a short film on diamonds. The highlight of the evening was an exceptionally fine film on copper mining in Chile, loaned by the Kennecott Copper Corporation. Long distance visitors came from Marblehead, Mass., East Andover, Lakeport and Concord, N.H.

A trip to the Harvard Museum was planned for May, including members of the geology class of their President, James B. Moore, who announced May 23rd as Open House at his Mineral Barn on West Street.

*The Newark Mineralogical Society*, of N.J. had a color, sound film on potash and related minerals entitled *Out of the Earth* for their 353rd meeting during April. Exhibit of the month was Intarsia; Rare Metal-Tungsten, Molybdenum, etc. In May Dr. Russell Nelson of the Tungsten Div. of Sylvania Electric Corporation spoke on rare metals: Tungsten, Molybdenum and others. Display for this meeting was semi-precious stones and objects—artistic or utilitarian or unusual—showing uses for minerals and stones. In the field trip department was a trip to the Crossman Clay Pits at Sayreville, N.J., for pyrite balls, marcasite, paint pots, iridescent stone.

*The North Jersey Mineralogical Society*, of Paterson, had Mr. F. W. Bloecher of the American Cyanamid Company talk on Flotation in the Concentration of Minerals for their April meeting. As their club library is becoming a very important department, request has been made for any extra copies of mineralogical or geological books, magazines, research bulletins, etc. that anyone would like to contribute. Miss Gosling, Chairman, will be happy to receive them and make them available on loan to interested members. Auction sales are also being held, proceeds to be used for purchase of new books for this library.

Neal Yedlin, of New Haven, Conn., was their May speaker; his subject being Micromounts. Club members were requested to display their micromounts and thumbnail specimens. A field trip to Haddam Neck, Conn., was arranged for May 24. With their library in mind, members were asked to pick up "one more nice specimen" for auction.

*The Monmouth Mineral and Gem Club*, of N.J. in their Quarterly bulletin report chartering a bus for a trip to the Paterson Museum in March, the museum opened

especially for them through the kindness of Dr. Frederik Zoref and the curator, Mr. Miro Bianco, who escorted the group through and answered questions. Afterward the group stopped for "fried clams" and then "clammed up" went home. In April they field tripped to Sterling for carnelian and cat's-eye, reporting good hunting, with member Bruce Wiggett finding largest specimen turned up, a pound and one ounce dark carnelian.

*The Geological Section—Buffalo Society of Natural Sciences* report their Spring Trade and Sale in April quite a success, which attracted a large crowd who came to look, buy and visit. Fossils, minerals, fluorescent minerals and jewelry were displayed and sold. A group of the *Rochester Section* also attended this meeting and invited the Buffalo members to a similar affair they are planning.

Dr. Irving H. Tesmer, a member of the faculty of the Science Department at the State Teachers College at Buffalo was the speaker at their May meeting. A student of the geology of the region, his subject was "The Geology of Western New York," illustrated with colored slides.

*The Fulton County Mineral Club*, of New York selected the Chamber of Commerce Rooms, Bleecker Street, Gloversville, the future permanent headquarters for their society. Mr. Andrew Palmer, President, gave the first of three reports on a week long field trip taken last summer to Maine, exhibiting specimens collected, at their first meeting in March. Mr. Louis Valachovic gave the second account at the last meeting of the month. On April 27th, Mr. Ara Dildilian gave the concluding report, and in addition displayed minerals secured on a recent western trip. At another meeting Mr. Phil Siarkowski gave a report on a trip to Schoharie where iron pyrites were collected, as well as a report on a collection of celestite and barite from a quarry in Schoharie.

At the May 11th meeting, Josephine Van Tassel and Catherine Streeter gave an account of the society's visit to Paterson, N.J. where Mr. John Weitman, of Pearl River, N.J. was host-leader. Bob Bedford and Lew Valachovic told of a recent trip to the tourmaline site at Overlook and a graphite mine at Conklingville. Nancy Burton Hughes, of Seroe Colorado, Netherlands Antilles, was made an Honorary Member.

A trip to Chittenango Falls, N.Y. was made on May 24. Mr. Owen Parsons dem-

onstrated the grading by weight in grams of "Little Falls Diamonds".

*The New York Mineralogical Club, Inc.* had Dr. Ralph J. Holmes of the Geology Dept. of the Columbia University, recently returned from the Orient, speak on "Turquoise with Principal Reference to Iranian Deposits" at their March meeting. Mr. Victor Pribil, Vice-President, reported this an excellent talk profusely illustrated with maps of localities and color slides on more important areas. Shown also were the scenic and architectural features of these areas. Displayed were specimens of the various turquoise typical of the visited areas; also odontolite, variscite for comparison. Also shown were samples of the Iranian cut material and their method of grading and pricing for market. The question and answer period lasted until they ran out of time.

Mr. Pribil also states that Dr. Daniel T. O'Connell, President of this society, welcomed back "our peripatetic Marco Polo" whose return had been delayed by a broken leg when an Iranian horse fell on it. According to the ancient superstition, had either the horse or his rider been wearing turquoise this would not have happened since according to the ancients turquoise is supposed to protect the wearer from all harm".

Joe Rothstein, Secretary pro tem, reports for April, "From Rangoon of the golden Pagodas, north on the Irrawaddy into Burma to Mandalay, and still deeper into Burma to the ruby and sapphire gravel beds of Mogok, we traveled with Col. Martin Ehrmann. Some 200 minerals are mined here in the incredibly rich alluvial deposits by the colorful skirted men of Burma in 1200 workings. Again we took another journey to the Burma Road to see the jadeite boulders being dug at Magalang. We finished in old China on the narrow Street of Jade in Hong Kong where the auctions are held in true gambling fashion with only narrow slits cut in the boulders for the buyer to see. Colonel Ehrmann reminisced about the days when he went to Bedford, N.Y., for Beryl and to Paterson, N.J., for the zeolites when he was an active member of the club and dreamed of a Utopia of gems and minerals. His pictures and his talk were evidence of this dream come true and his warm welcome before the meeting and the rising vote of applause afterward meant we were glad to have this old member back again if only for the evening.

"Mr. K. Einar Whalen, Chairman of the Publications Committee, proudly unveiled

the pamphlet of which he is the author and into which has gone two years of research and labor. He was thereafter kept busy signing copies of the Minerals Named After Members of the New York Mineralogical Club."

The Rockland County Mineral and Gem Society, of N.Y. made a "pilgrimage" to the nation's capitol, via bus trip, to visit the Smithsonian Institution on May 3, with 44 members aboard. Leaving Spring Valley at 6 A.M. they arrived in Washington at noon to spend about five hours "drooling" in the new Mineral Hall, especially at the Hope Diamond. President-Editor Elsie Kane White of the Federation drove over from Baltimore to join them during the drooling period in the Mineral Hall and have dinner with this highly enthusiastic group before their bus left D.C. about 7:30 P.M. Mrs. Marguerite Collyer, editor of the Rockland Nuggets reports the Juniors on the trip entertained the "oldsters" on the way home by singing over 100 songs from D.C. to Delaware, surprising them by knowing old songs and spirituals too, so they all joined in. After a coffee break in Delaware, they settled back for a quiet snooze in their comfortable bus and arrived back at Spring Valley at 1:20 A.M. They want more bus trips. Two weeks later 10 cars with 35 members journeyed to Fonda, N.Y. to a new location for Herkimer "Diamonds," and were well rewarded. Someone is reported to have found one as big as a grapefruit, double terminated and in perfect shape.

Mr. Victor Pribil was their speaker in April, showing his film on the "Know How of Lapidary Work" from the rough specimen to its final gem ready to be set for Milady, including cabochons, baroques and faceting. The Lapidary Division had Mr. Louis Eaton Shaw in May give a practical demonstration of gem faceting, with the Scott faceting-head of which he is the inventor, and later in the month Mr. Pribil showed his three-part film on cabochon cutting and polishing, plus all the tricks of the trade that he devised and advised.

This society sponsored a lecture for the Spring Valley Junior High School for the third year in May, with three members lecturing to about 150 students. Mrs. Marguerite R. Collyer, Program Aids and Education Chairman of the Eastern Federation, introduced the subject, outlining the history of the club and its affiliation with other clubs across the country and the romance of being a collector. Mr. George

Weeks then took over in a technical way explaining the different categories of minerals and their uses, with Mr. William Rode concluding with Fluorescent minerals, with oohs and aahs from the students when the black light was thrown on.

*The Mineralogical Society of Pennsylvania* scheduled their annual business meeting of members for Sunday, May 3, in the Blue Ball Quarry. Except during the meeting, collecting was the order of the day; minerals found here being pyrite, dolomite, calcite, fluorite, quartz, quartz enclosing hematite, hematite and rutile.

As host for the annual Spring meeting of the Pennsylvania Academy of Science held at Spring Mountain House, Schwenksville, in Montgomery County on March 26, 27 and 28. Charles A. Belz, President of the club reports about 200 members and guests present in honor of the 35th Annual Meeting of the Academy. Thirty-one papers on geology, biology and general science were presented during the session. Wilhelm Bock, Richmond Myers and Edgar T. Wherry, members of MSP as well as of the Academy, presented papers in the Geology Section. At the annual banquet on Friday night Dr. Arthur Shively, President of the Academy was toastmaster, with Dr. W. F. G. Swann, Director of the Bartol Research Foundation, the guest speaker.

In April special permission was granted this society to enter a famous quarry which "has for some time been closed to collectors." It has been definitely, decisively, unequivocally, firmly a KEEP-OUT-this-means-you area, and as we are told WHY . . . we sympathize entirely with the Owners". But because it was a very special day and because they assured the owners that they are a responsible society, permission to hold a field trip was granted. The society guaranteed for their members arrival at a certain time and departure at a definite hour—with the following note to members:

We will not litter up the place

We will not scale the walls.

WE WILL NOT GO NOR PERMIT  
OUR YOUNG MOUNTAIN GOATS TO  
GO UP ON THE TOP LEVEL. We will  
not tamper with the machinery.

We will be exceptionally safety conscious.  
Bring and wear your goggles.

We will not consider this as a right to re-entry on our own. This is a Society affair, and the permission has been given us as the MSP. These are not restrictions.

They are merely promises not to do the things which closed this fabulous spot.

*The Western South Carolina Gem and Mineral Society*, of Greenville, heard Mr. Jim Durst, a "rock-hounder" of some 40 years experience, speak on the Carolina Mineral Locations at their April meeting. In May "Chile and Its Resources" was the subject on which Mr. Henry Borgherest, a native of Chile now living in Greenville spoke, showing slides and photographs.

Their May field trip was set for the vicinity of Gap Creek Road, Upper Greenville County, to hunt jasperoid, jasper and drusy quartz, which are reported in abundance in this area.

For all those who have "mined" rubies at Franklin, N.C., this FLASH will be especially interesting. Mel Fortune of this society reported that another member, Mrs. H. F. McKay, found an unusually large ruby, 125 carat weight, near Franklin, N.C., on May 3.

*The Gem and Mineral Society of the Virginia Peninsula* were invited by the *Richmond Gem and Mineral Club* to join them on a field trip in May to go to Columbia, Va., to pan gold; then to the Central Planes Area for rhodonite and then to Esmond for large pyrite crystals.

#### Our Tenth Year

When this is published the Eastern Federation will be on its way into its tenth year with a new administration to guide it. From an idea, a few people, a few clubs and much enthusiasm, for nothing great was ever achieved without it, each year has proved a giant's step toward our present stature. We are now an association of fifty-two societies, with more becoming affiliated. We can keep stepping full speed ahead with wholehearted support for our new officers. I pledge them mine.

It has been a wonderful honor and privilege to serve our Federation as its president. The memory will be one of my cherished souvenirs. I thank each officer, committee chairman and member who helped make this another successful year.

Mrs. Elsie Kane White  
Retiring President

(All Federation news should be sent your Current Event's Editor, Mrs. Elsie Kane White, 3418 Flannery Lane, Balt. 7, Md.)

*The Connecticut Valley Mineral Club*, of Mass., include among recent activities a meeting held April 1 at Fernald Hall, Univ. of Mass., Amherst. New president,

Dr. Allen Anderson, appointed Mr. T. Grant Whidden as Field Trip Chairman for the coming year. The speaker of the evening was G. E. McGill, Asst. Prof. of Geology, Univ. of Mass. His subject, "Areal Geology, Geologic History and Mineral Resources of Montana", was well illustrated with colored slides of the scenery and geological formations of this interesting state. Coffee and doughnuts were served after the meeting in the Geology Lab. as members looked over the colorful mineral collections.

They got off to a flourishing start with a field trip Sunday, April 12 to the Thomaston, Conn. flood control dam and railroad cut. In spite of cold, blustery weather collectors found many interesting specimens of stilbite, green and purple fluorite, wurtzite, heulandite, barite, kyanite, and other interesting minerals.

Member's Exhibition Night was held May 6 at the Springfield, Mass. Museum of Natural History, the exhibits including colorful material from Thomaston, Conn., from the local trap rock, various showy and polished specimens, plus a brilliant fluorescent display.

Sunday, May 10, a field trip was taken to Conklin Limestone Co. Quarry, Limerock R. I. where the bowenite variety of serpentine, nice dendrites, and small calcite crystals were collected. From there the group moved on to Copper Mine Hill in Cumberland where covellite, molybdenite, pyrite, fibrous actinolite, azurite, magnetite, epidote and other minerals were tentatively identified and collected.



Mr. Charles Hull of Agawam, Mass., charter member of Connecticut Valley Mineral Club, in spite of his 85 years negotiates the steepest ridges and swings a lusty sledge-hammer.

## THE MINERALOGY OF MOSELLE MINE NO. 10

By RAY LASMANIS, 70 St. Marks Place, Roslyn Heights, L.I., N.Y.

The Moselle Mine No. 10 is found in the Roubidoux formation characterized by ripple marks found in the immediate vicinity of the mine. Its location is NW $\frac{1}{4}$ , NE $\frac{1}{4}$ , Sec. 20, T.36., R.8W., Rolla Quadrangle, Phelps County, Missouri. The ore first mined was hematite from which iron was extracted. Then deeper in the deposit the hematite diminished until only pyrite was mined for the production of sulphur. This pyrite was deposited in a sink structure. A sink structure is an opening underground where the limestone has been dissolved and carried away.

The primary minerals were deposited in the sink structure by solutions from the Roubidoux and the overlying Jefferson City formations of Ordovician age. These minerals were pyrite and marcasite. They occur mixed or crystalline, stalactic, or botryoidal in form. Before the pyrite and marcasite was deposited the sink contained calcite crystals since a specimen of pyrite found in 1957 contained perfect casts of calcite crystals from 1 $\frac{1}{2}$ " to 2" long.

As the overlying Jefferson City formation and part of the Roubidoux formation was weathered away the primary minerals were oxidized and new minerals deposited by solutions. Thus we come to our secondary minerals. I have divided the secondary minerals according to their sequence of formation.

The first group contains pyrite formed from the recrystallization of earthy pyrite found in the mine. Druses of small pyrite crystals on the primary pyrite and marcasite can be taken as evidence that the druse formed at a later period of time.

As this secondary pyrite was forming or at a later time oxidation was taking place on the surface of the deposit. The two primary minerals pyrite and marcasite were oxidized to hematite. The evidence for this type of a reaction is very strong since most of the steel gray

hematite is found as pseudomorphs after stalactic or botryoidal pyrite or marcasite. The hematite was still further oxidized along the surface of the deposit to limonite which generally still has the shape of the primary minerals pyrite and marcasite. Some pyrite oxidized directly to limonite. Between the hematite and the limonite red ochre is found presumably as an intermediate stage between the hematite and the limonite.

As the limonite was forming on the surface of the deposit solutions containing minerals seeped through the ore body and deposited its contents on the already-formed hematite. Some minerals were deposited in the limonite. Of the most prominent solution deposited minerals at the mine is quartz. It occurs as crystals of amethyst, smoky, or clear quartz usually in cavities in hematite. A yellow glassy jasper can also be found. No quartz crystals have been found on pyrite crystals so we are safe to assume that the silica rich solutions deposited their contents in the upper part of the ore body. The silica was deposited simultaneously with goethite since quartz crystals contain goethite needles radiating from the centers of crystals to their outer crystal faces. At a later time hematite was also deposited from solutions on the quartz crystal faces and then inclosed in the growing quartz crystal. The solutions also helped supply the moisture for the oxidation of hematite to limonite which was later deposited in the country rock and in the ore.

Besides the above mentioned minerals selenite and dolomite can be found as crystals in cavities. These minerals were also deposited from solutions. The last mineral to form from solutions was malachite. It can be found as radiating druses in fracture zones of jasper and hematite.

My last group contains hydrated metal sulfates formed from the decom-  
(Continued on page 341)



## ROCKS AND MINERALS ASSOCIATION

(International)

### NOTES & NEWS

Don Presher, Pres.

Box 29, Peekskill, N. Y.



Vacation time is here at last. Now, finally comes the time to put those plans and thoughts into action. All winter and spring our thoughts have been on places to visit, specimens to acquire and all the other things we want to do during our vacation. I find that if I were to follow all the plans that I would like to, I would need about three months vacation instead of the two weeks available. However I am looking forward with keen anticipation to visiting some new locations and to return visits to some of the more familiar ones.

Perhaps a few references about localities in this eastern section may be of help to those of you who plan to do some collecting in this area. I am sorry to say that the famous old Tilly Foster Mine at Brewster N.Y. is still posted but specimens from this location can still be found in the fill that has been taken from the dump and used on the repair of U.S. Route #6 between the hamlet of Tilly Foster and the town of Brewster. Specimens of clinochlore, chondrodite, magnetite and serpentine can be picked up in this fill.

The pegmatites at Bedford, N.Y., are well worth a visit if you are in the neighborhood. Here, specimens of rose quartz, smoky quartz, feldspar, graphic, granite, biotite and garnet are plentiful, occasionally one may find beryl, tourmaline, autunite and columbite.

If your travels take you over Route #6 between Danbury, Conn., and Brewster, N.Y., a stop at Ronald Janzzi's Dinosaur Shop would be worth your while. He has a very fine display of mineral specimens and crystals. Be sure to bring your membership card with you to secure the discount in case you may want to buy a specimen or two, Mr. Januzzi

reports that many members are taking advantage of this consideration. If you intend to collect in this area, be sure to inquire about his book on local collecting.

Memo to rock hounds in the vicinity of Springvale, Maine. If interested in joining a Mineral Club, contact Mr. Kent D. Thurston, Mousam Road, Springvale, Maine. (Best of luck with the new club, Kent).

Reminders: We are always glad to be of service if you need help in identification of your specimens. Many members have taken advantage of this service and it is hoped that many more will make use of it.

Your response to my inquiry about shoulder patches seems to indicate that many favor this means of identification. Therefore I placed the order for them, and will see that your orders are filled as promptly as possible. Patches will be sent to those who wrote in and asked for a specific number, to others that did not state how many were wanted, please place your order now. Patches are priced at 75¢ each. Orders and payment should be sent to me at Box 146, Montrose, New York.

For car emblems write to L. C. Duer-smith (see ad this issue). Let's make it easier to find each other. Write for that membership card if you have not done so. Best of luck and good hunting.

Don Presher

Please send a self-addressed stamped envelope when applying for membership card.

Mail to:  
DON PRESHER, Pres., R&MA  
Box 29, Peekskill, N.Y.

## IMPRESSIONS OF A ROCKHOUND

By LYNN J. MOORE

2934 N.E. 67th Ave., Portland 13, Ore.

Oregon is a paradise for rockhounds, not only the professionals but for anyone who loves the outdoors and appreciates the beauties of Nature as recorded in its rocks and fossils. You'll be a confirmed rockhound if you once roam the Oregon hills and search the gravel beds along the Oregon Coast where nodules, petrified wood, agate, jasper, beach jade, petrified coral and fossils may be found by the persevering candidate. If, in the heavy pack you are sure to lug back, you find a few real prizes, you are on the way to be a bona fide rockhound.

Oregon furnishes the rock collector with the most diversified list of semi-precious stones in America and the collecting areas range from the Columbia River to the California line and from Eastern Oregon to the Pacific beaches. Central Oregon furnishes the world famed Thunder Egg agate filled nodules and extensive areas where petrified wood may be found. The most prized are the plume and opal filled nodules.

In the Spring months the Oregon beaches from Roads End to Bandon offer many gravel beds that yield a great variety of material. Just where such a variety of material come from is a matter of much conjecture. It is quite evident however, that it originated elsewhere and was possibly carried down in ice floes and deposited in its present location when the ice melted. These agate beds are not always stationary—neither are they dependent on bank erosion shifting with various tides. One odd phenomena is that the Summer tides bring in sand whereas the Spring and Winter tides take out the sand and bring in the gravel.

One of the thrills of picking up rocks at the beach comes from "working" the agate bed on an out-going tide. Each receding wave is followed out to see what it has uncovered and to grab a rock or two before being chased in by the next wave. Should the agate hunter wait a little too long in making his retreat, he will probably have the cold

(Continued on page 335)



Rock hunting on beach south of Yachats, Ore.

## PUBLICATIONS RECENTLY RECEIVED

### Clays and Clay Minerals

Proceedings of the 6th National Conference on clays and clay minerals, Berkeley, Calif. August 1957, Ada Swindford, Editor. 411 pp., illus. Published by Pergamon Press, Inc., 122 E. 55th St., New York 22, N.Y.

Price \$8.50

CLAYS AND CLAY MINERALS is the annual proceedings volume of the National Clay Conferences. These proceedings of the Sixth Conference stress crystal structure of clay minerals, alteration of feldspars, clay mineralogy of soils, morphology of clay particles, water vapor sorption and diageneses. CLAYS AND CLAY MINERALS keeps workers in the subject abreast of recent developments in clay mineralogy. The Proceedings of the First Conference are published as Bulletin 169 of the California Division of Mines, and those of the next four conferences are issued by the National Academy of Sciences—National Research Council Publications numbered 327, 395, 456, 566. This volume of the Sixth Conference Proceedings—the most comprehensive source of recent advances in clay mineralogy—and all future volumes, will be published by Pergamon Press in its Earth Science Series.

CLAYS AND CLAY MINERALS is essential as a reference book for courses in clay mineralogy, ceramics, agronomy and petroleum engineering.

### Buerger—Vector Space.

By Martin J. Buerger, 347 pp. 17 figs. Published by John Wiley & Sons Inc. 440 Fourth Ave., New York 16, N.Y.

Price \$12.00

In view of recent developments in crystal-structure investigation, the need for a more complete treatment of vector space has arisen. The author is concerned here with that one avenue of solution to the phase problem. By limiting the scope of his book in such a way, Professor Buerger has further increased its special value.

The vector space approach, which reveals the possibility of a solution of the problem for crystals of limited complexity,

is given an integrated treatment. (A general knowledge of crystal-structure analysis is assumed.) The theory of the approach is considered—and the applications of this theory to the solution of problems in crystal-structure analysis are described.

### Abelson—Researches in Geochemistry.

Edited by Philip H. Abelson, 511 pp., illus. Published by John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N.Y.

Price \$11.00

This book provides a comprehensive view of current research in geochemistry. Written by authorities in their respective fields, each chapter reviews (briefly) the present status of research in the area of inquiry, describes (in detail) and contains an extensive selected bibliography.

New developments in nuclear geology are presented by Libby, Epstein, Ault and Reed. Geochronology is treated by Tilton and Davis and de Vries. Chemical considerations pertaining to ore solutions, deposits and prospecting are set forth by Krauskopf, Barton, Kullerud, and Hawkes. Geochemistry of organic substances, including petroleum, is discussed by Abelson and Hanson. Some process occurring at low temperatures, including sedimentation, are examined by Arrhenius, Garrels, Keith and Degens, and Milton and Eugster. Some of the reactions occurring during metamorphism are considered by Thompson, Boyd, and Eugster. The geochemistry of carbonates is treated by Goldsmith and short-range ordering by Chayes. Considerations important to our view of the interior of the earth are presented by MacDonald and Clark.

Listed below are a few of the many major contributions in this volume that make it unique in its field:

includes description of techniques that have been used to estimate temperatures of formation of numerous ore deposits (Dr. Kullerud).

describes dating methods for the study of precambrian stratigraphy which have already been successfully employed to date

events occurring early in the history of the earth (Drs. Tilton and Davis). offers an important contribution to the geothermometry of silicates and carbonates (Dr. Epstein).

discusses the use of tritium—an agent which could be very important in determining the water resources of this country, particularly in the arid West (Dr. Libby).

#### **Homesley—Faceting and Flats for Fun.**

By Ralph Homesley, 59 pp. illus. Published by the author, Ralph Homesley, Box 204, Brownwood, Texas. Price \$3.00

"Here is a copy of my new book, Faceting and Flats for Fun. It covers the fascinating art of gem cutting from start to the more advanced cuts and designs, and also has a chapter on really putting a flat mirror surface on flats and pagodas.

The instructions on how to cut the Great Mogul Diamond Replica is almost worth the price of the book besides the simple instructions on how to align and adjust a faceting machine.

"My winning of the Graves Trophy in 1958 will make the chapter on displaying faceted gemstones be of some value to other rock hounds and help spark some ideas. The book is written by a rock hound

for rock hounds in simple rock hound language. The price is \$3.00 postpaid."—letter dated May 15, 1959 from Mr. Homesley.

#### **Mining Industry of the Province of Quebec—1957.**

147 pp., 2 figs., 8 pls.

Issued in 1959 by the Department of Mines, Quebec, Que., Canada.

#### **Geoloski Vjesnik.**

272 pp., many illus.—all in Czech.

Issued by Geoloski Vjesnik, zavod za Geoloska Istrazivanja, Kupska ul. 2, Post. Pret. 207, Zagreb, Yugoslavia.

#### **Australian Publications**

##### **Gypsum deposits of Western Australia.**

By L. E. DeLa Hunty B. Sc., and G. H. Low, B. Sc. 110 pp., 2 figs., 5 pls.

##### **Geology of the Phillips River Goldfield, W.A.**

By John Sofoulis, B. Sc. 240 pp., 1 pl.—in separate atlas 17 maps.

The above two publications have been issued by the Geological Survey of Western Australia, Perth, Western Australia.

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#### **Impressions of a Rockhound**

(Continued from page 333)

experience of removing his boots and wringing out his socks. This in February is most annoying.

If you are planning a western trip this summer, pack your car and drive out to Oregon and investigate this rockhound paradise. Spend two weeks or a month picking up agates on the beaches, petrified wood along the rivers and streams, nodules in eastern Oregon and arrive in Portland in time for the National Convention of Agate and Mineral Societies over the Labor Day weekend, September 5, 6th and 7th. The dazzling displays, the elaborate entertainment, the guided tours will delight the heart of any rockhound.

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#### **Franklin Mineralogical Association**

(Continued from page 318)

The FMA is non-profit and non-political in nature. All revenues are carefully used to defray only the important costs of editing and publishing the Digest and meeting the normal expenses incident to the operation of a mineral society.

For additional information about the Association—its benefits and activities, please refer to the following editions of Rocks & Minerals Magazine: Jan. Feb. 1958, p. 44; May-June 1958, pp. 227-228; Sept. Oct. 1958, pp. 435-436; Nov. Dec. 1958, pp. 523-524; Jan. Feb. 1959, p. 43. Or consult current editions as well.

If you wish to receive a copy of the 1958 Digest plus the forthcoming 1959 Digest plus the other benefits until October 31, 1960, send three (3) dollars now and become a member of one of America's most interesting mineral societies.

Gerald J. Navratil, Sect., FMA  
Box 408, Middleburgh, N.Y.

## Collector's Corner

For the special benefit of collectors who may be living in areas far removed from other collectors we have opened this feature. In this corner, a collector may have his name and address listed for the purpose that other collectors may write him in the hope that through correspondence, exchange of ideas and specimens, new friendships may be formed. Listings are free.

Norene Inskeep, 915-4th Ave., Box 646,  
San Manuel, Ariz.

Gary L. Powers, 1126 E. 3rd Ave.,  
Mesa, Ariz.

Mr. & Mrs. E. J. Bentsen Rt. 1, Box 508,  
Delhi, Calif

Benj. L. Handley, 114,  
Clio, Calif.

Dwight Weber, 328 N. Louise St., Apt. 9  
Glendale 6, Calif.

Claude A. Potter, Box 115  
Hemet, Calif.

CWO Vernon R. Braun, 9004 Rosewood  
Drive, Sacramento 19, Calif.

Mrs. John Branch, 3820 Ridge Ave.,  
Tampa 3, Fla.

P. W. Hostun, 5235 Attleboro Ave., JACK-  
sonville 5, Fla.

Mrs. Bertha Lawrence, 2311 Arcadia Dr.,  
Miramar, Hollywood, Fla.

George & Velma Wyatt, 2002-57th,  
Tampa 5, Fla.

Louis C. Davis, 505 S. Slappey Dr.,  
Albany, Ga.

Maurice Lamb,  
Niota, Ill.

Jim Jackson, 24 Oakwood Dr.,  
Prospect Hts., Ill.

Frank Acuff, Jr., (12 yrs.) CMR 83  
Bartonville, Ill.

Rudolph V. Frana, 1741 N. Keeler Ave.,  
Chicago 39, Ill.

Paul L. Doggett, 950-65th St.,  
Des Moines 16, Iowa

Mrs. Bryce Allen, Box 486,  
Tribune, Kans.

Malcolm Arnett, RFD 1, Box 253,  
Corydon, Ky.

Nelson Garner, RR 2,  
Sharpsburg, Ky.

Mrs. Valentine Lippold, R. 2, Dexter, Maine

Timothy K. Beck, 9 Arthur Rd.,  
Andover, Mass.

Leslie R. Clift (11 yrs.), N. Main St.,  
Raynham Center, Mass.

Fred V. Ham, 404 W. Main St.,  
Durand, Mich.

Larry Smith (12 yrs.), 2051 Clyde Park  
S.W., Grand Rapids, Mich.

Walter Kalata, 100 Shamrock St.,  
Ironwood, Mich.

Carol Schlegel (12 yrs.), 4407 Forest Park  
Drive, Jackson 6, Miss.

Cheryl Miller (12 yrs.), 508 Orange St.,  
Concordia, Mo.

Merryl & Mary McCoy, RR 3,  
Kahoka, Mo.

Tod Ashmun (11 yrs.), 2640 Sewell  
Lincoln, Nebr.

Jack Ryason, Box 245,  
Bridgeport, Nebr.

Charles H. Ball, 611 Prospect Ave.,  
Spring Lake Heights, N. J.

David Klinshaw (11 yrs.),  
153 Oakland Ave., Audubon 6, N.J.

Edward R. Loveland, Delsea Drive,  
Pitman, N. J.

Mrs. Lucille Outwater, 140 Perrin Ave.,  
Pompton Lakes, N.J.

Mr. & Mrs. John T. Swift, 955 Beatty St.,  
Trenton 10, N.J.

L. Michael Kaas, 18 N. Mansfield Ave.,  
Margate City, N.J.

Stanley Plachcinski, 31-64-30 St.,  
Astoria 6, L. I., N. Y.

William M. Lemmon, 2023 Grove St.,  
Brooklyn 37, N.Y.

Wm. & Adeline Rudge, P. O. Box 366,  
Grand & Webster Ave., Lake Ronkonkoma,  
L. I., N. Y.

Mrs. Dorotea M. Rowe, RD 1,  
Nassau, N.Y.

Robert E. Bedford,  
14 E. Main St., Johnstown, N.Y.

John Tutaro, 221 Busti Ave.,  
Buffalo 1, N.Y.

Peter Lesley (14 yrs.), 5616 Netherland  
Ave., Riverdale 71, N. Y.

Ralph W. Caton, 51 Valley St., Concord,  
N.C.

Herby Bolick, 206 Wilson Drive,  
Morganton, N. C.

T. D. Burns, Rt. 1, Box 299A,  
Matthews, N.C.

L. D. Boykin, Jr., Rt. 8, Box 272A,  
Charlotte, N. C.

Myrtle Gentry, Rt. 1,  
Dobson, N.C.

R. L. Brown (13 yrs.), Rt. 1,  
Dobson, N.C.

Wilber Carpenter, Rt. 1,  
Dobson, N.C.

R. S. White, Jr., 2619 Woodvale Dr. Winston-Salem, N.C.

Michael Bailey,  
Arvilla, N. D.

Mr. & Mrs. Harold Heely, 16317 Corkhill  
Rd. Maple Hts., Ohio

Allen E. Marks, 12215 Ashbury Ave.,  
Cleveland 6, Ohio.

Robert M. Maher (14 yrs.), 1149 Parkway  
Drive, Columbus 12, Ohio

The Lomoziks, Forest Dr. 10,  
Brunswick, Ohio

F. H. Chenevy, 727 S. Mill St.,  
Orrville, Ohio

David Belusko, 776 Grant St., Hazleton,  
Pa.

Richard C. Haefner, 217 Nevin St., Lancaster, Pa.

Tressa Lawhead, 3936 W. Ridge Rd.,  
Erie, Penn.

Mrs. Walter Dundorf, Jr., 445 Valley St.,  
Marysville, Pa.

David A. Hoff, 5152 Park Ave., Bethel Park, Pa.

Thomas Petro (16 yrs.), 905 Meade St.,  
Reading, Pa.

C. Nicholas Speltz, 1917 Foster, Memphis 14, Tenn.

Edward Helpenstell, 1429 Sandpiper Dr.,  
Houston 36, Texas

T. Nichols, Rt. 4,  
Bowie, Texas

V. Sabin, 723 Steves,  
San Antonio 10, Texas

Larry Volkert, 54 N. Pleasant St.,  
Middlebury, Vt.

Ben Marshall, P.O. Box 926,  
Amelia, Va.

Vernon E. Grant, 3106 Duncan Rd.,  
Richmond 28, Va.

J. E. Rawles & Jimmie, 51 Green Oaks  
Road, Newport News, Va.

Rudy J. Bland, Jr., 3218 Rueger St.,  
Richmond, Va.

Bob Brock, 315 E. Commercial St.,  
Appleton, Wisc.

Thomas L. Sellers, Box 186,  
Margarita, Canal Zone

Robert Easton, 25 Lascelles Blvd. Apt. 204,  
Bldg. 4 Toronto 7, Ont., Canada

Miss C. Ann Griffin, 108 Lascelles Blvd.,  
Toronto 7, Ont., Canada.

Douglas Scott, Markham, Ont., Canada

David, Jack & Edwin Lameck, 2353 Woodlawn Ave., Windsor, Ont., Canada

Mr. & Mrs. W. F. Erichsen, 2075 Lansdowne Rd. Victoria, B.C., Canada

J. de Boer, 903 Harmol Heights, Caroline St., Hillbrow, Johannesburg, Trans., South Africa

Mrs. B. Gartrell, Rubyvale P.O.,  
Central Queensland, Australia

## WITH OUR ADVERTISERS

Conducted by James N. Bourne  
c/o Rocks and Minerals, Box 29  
Peebles, N. Y.

Advertisers are cordially invited to submit News Items to this Department

We are pleased to include the following item received from Dr. R. T. Boyd, of Quality Opals, 77 Cornelius Pkwy., Toronto 15, Canada, advertising in R&M this and past issues.

### Field Trip to the Andamooka Opal Fields

The tour is the first of its kind into the Australian Opal Fields and will be personally conducted and supervised by:

Dr. Russell T. Boyd, Dental Surgeon, Gemmologist, Lecturer, Opal Importer.

The tour will leave San Francisco in early September and travel by Air to Sydney via the Hawaiian and Fiji Islands and return to San Francisco in about a month. Members of the group will be free to stay longer in Australia should they so desire, after the tour reaches Melbourne. Such additional stop-over would be at the individual's expense. On arrival in Sydney every detail of the 2500 mile scenic tour will be in the capable hands of the Pioneer Tourist Company, the largest and most efficient travel service in Australia. The group will travel comfortably and leisurely by Scenic Clipper Coach, similar to the Greyhound Buses. No detail of the varied and exciting scenery will be missed. An experienced tour manager, Mr. Don Wright, will accompany the group and his job will be to see that everyone enjoys every minute of the 2500 mile tour. He will also be in charge of the Andamooka Safari which will travel through about 300 miles of rugged desert country to Andamooka and there he will supervise the setting up of a completely equipped base camp.

Travellers on this tour will have a never-before offered opportunity to see Australia in one of the most comprehensive and inexpensive guided tours that has ever been conducted in Australia. The one week stay "on Safari" at Andamooka will be a marvelous opportunity for digging some gem opal and fine opal specimens. There are hundreds of disused shallow shafts (10-20 feet) and every member of the party will be issued a State Miners Right to enable

him to stake and work a claim and keep any opal that he finds. We need hardly emphasize that anyone having good luck could quite easily make the expenses for the trip. The discovery of good opal is not a matter of skill at all; one of the greatest finds in recent years was made by native aborigines. There are several hundred of these very primitive black people living in this area and this fact alone would make the trip worthwhile.

The desert country in September, the Springtime of Australia, is usually a magnificent carpet of wild flowers.

The estimated cost for the entire trip from San Francisco and return is \$1500.00.

Note: Take a look at the ad of "Quality Opals" this issue for some fine buys in opal.

Readers looking for a place to visit this summer will be interested to know of the Spruce Pine Mineral and Gem Festival to be held at Harris High School Gymnasium, Spruce Pine, N.C., Aug. 5th through the 8th., and sponsored by the Spruce Pine Chamber of Commerce along with other civic organizations cooperating. The first 3 days will feature Commercial and Competitive exhibits, Guided Field Trips on the 7th and 8th of Aug. A very well rounded program is in store for both participant and spectator. Several thousands of persons are expected to attend and from advance notices received, the Festival is going to be a huge success. Be sure to be there for a highly entertaining 4 days.

We thank the Bimson's of 2967 N. Speer Blvd., Denver 11, Colo. for a nice 1 inch specimen of gem quality sphalerite for our collection. Specimen was collected at Big Four Mine in Colo., and very nice. Readers may note the Bimson ad this issue featuring sphalerite that not only is a challenge to the faceter in bringing out all the fire that is in the stone, but makes a wonderful addition to one's collection as fine specimens alone.

The Third Annual National Micromounting Symposium, sponsored by the Baltimore Mineral Society will be held Saturday and Sunday Sept. 12th and 13th, 1959 at the William Lemmel Jr. High School, Baltimore, Md.

The Society is anxious to encourage participation by micromounters from the middle and far west. Lectures, workshops, and competition will be featured. For information write to Baltimore Mineral Society, C/O Arthur Goodwin, P.O. Box 3758, Baltimore 7, Md.", reads their press release.

Note: The annual gathering of those interested in micromounting is becoming increasingly popular each year and we urge collectors and hobbyists to attend this worthwhile event.

Those of you who have not yet read Alton Duke's "Arizona Gem Fields" better send for their copy while supply lasts. Price is \$2.50 plus 8¢ postage.

Arizona Gem Fields is concise, accurate, with pictures and maps covering Arizona's better known gem fields. A must for the tourist rockhound. For your copy, write to Arizona Gem Fields, P.O. Box 1402, Yuma, Ariz.

Note: We have read the above book and found it excellent reading. Alton Duke has done a fine job as those reading his book will attest.

We take pleasure in printing the following item re: to Mrs. Helen Bradley, owner of the Monadnock Mineral Shop, P.O. Box 362, Jaffrey Rd., Marlboro, N.H.

"This little turquoise and pink building near Mt. Monadnock is the "Dream come true" of a young woman, who was a semi-invalid for six years. During her illness the collecting of minerals kept her spirit alive and responsive to the beauty and wonders of nature. After visiting shops in Maine and Mass., she dreamed of having one also.

"In 1952 she felt better and set to work. Sawing with a little hand saw, she cleared a place for her building. Some trees were eight inches in diameter. Neighbors helped to build the little modern structure and in June 1952, she opened her shop. Her sincere interest in minerals and in her customers brought results. The customers now come from every state in the Union."

Note: When vacationing in the New England area this Summer and Fall, be sure to drop in at the Monadnock Mineral Shop

and be pleasantly surprised. May we also at this time thank both the Bradley's and the Whitehead's of Monadnock Mineral Shop for the nice little "Fossil Sea Biscuit", collected at Red Level, Fla. Quite interesting.

Grant W. Withers of World Gems, 266 Buckhead Ave., N.E., Atlanta 5, Ga., sends us the following item:

"Nothing can describe the wonders of the Dark Continent of Africa better than its exquisite gems and minerals. We import the following material exclusively and in volume.

"From Kenya—Beautiful phantom chevron amethyst of lovely alternating bands of fine violet purple and white quartz. 2 full ounces only \$1.00. From Southern Rhodesia—Everyone is talking about the gorgeous deep purple "Zambezi" amethyst for wonderful cabs or specimens. 2 full ounces for ONLY \$1.00. From Mozambique—Green, green-blue and bicolor green and pink tourmalines. These are nice sized crystals for lovely gem cabs and specimens. This is a real buy. 3 full ounces or more for only \$2.00

Note: Many more outstanding buys may be made by contacting World Gems, as the material is offered on a retail basis for the first time. It may be wise to put your order in today.

From Harry C. Wain of Mineral Equipment Co., Hampden Road, Somers, Conn., comes the following:

"Our SW 18 short wave ultra violet lamp has 10 times the power of most lamps sold and 5 times as much radiating area with a filter over 16" long. This lamp is lightweight, only 5½ lbs.; ready to plug in. Switch is on side on case. 9 ft. of cord and baked-on gray hammertone finish. 20" long. Price \$64.50 plus 75¢ to cover packing, insurance and postage."

Note: Above lamp and their smaller SW 5 short wave lamp are very powerful with very good coverage as to radiating area. For further details as to these excellent lamps note the ad this issue of Mineral Equipment Co.

Running a classified ad with R&M this issue is Arthur Poch, North Seventh St., Rogers City, Mich. A word from Arthur reads:

"I am 66 yrs. old and lived in Presque Isle County, Mich., all my life. I know all the good outcrops where fossils can be found in our county. Will supply all visitors

with map as to where to find them in our county and not have to pay to hunt. This county (Presque Isle, Mich.), has never been worked for fossils, but we have plenty to offer."

#### NOTICE

"The office of R. C. Romanella, 22 West 48th St., New York 36, N.Y., will be closed during the summer months of July, Aug. & Sept. Will be re-opened in the Fall to again accept your orders." Thank You.

Bob & Jean Menser of North West Gem Co., So. Tacoma Way, Tacoma 9, Wash., wishes the following info. passed on to our readers:

"We have been in the mineral and gem business for a good many years and due to lack of space we've devoted much of our time to mail order. Now, however, we have

remodeled the interior of a building at 4702 S. Tacoma Way and have many of our gem & mineral specimens on display there, and also repair lapidary equipment, do custom manufacturing of machines, custom welding & cutting.

"All rockhounds and interested parties are invited to come in and get acquainted."

Note: Best of luck at your new place of business Jean and Bob. Hope you get a million visitors.

Some very nice specimens of scheelite from Inyo County, Calif., may be obtained from Petro-Specialties, Box 188, Woodland Hills, Calif. A choice specimen of this material was sent to us by James H. Richardson of Petro-Specialties and comes from one of the numerous tungsten mines in the Darwin, Inyo County, Calif., area. Our thanks to Mr. Richardson. Readers may note his ad page 279, May-June issue last.

## VISITING ROCKHOUNDS WELCOME

The following subscribers would be delighted to have rockhounds call on them when passing through their cities. If any one else wants his name added to the list, just let us know.

John J. Brown, 5016 E. Broadway, North Little Rock, Ark.

John & Clara Roder,  $\frac{1}{2}$  mile south of junction Hwy. 7 north & 70 between Hot Springs & Little Rock, Ark.

CWO Vernon R. Braun, 9004 Rosewood Drive, Sacramento 19, Calif.

Mr. & Mrs. E. J. Bentsen, Rt. 1, Box 508, Delhi, Calif.

Mac & Maggie McShan, 1 Mi. west on Hy. 66, Needles, Calif.

Porter, A. W., Pepperwood, Calif.

O. A. Reese, 806 E. Boulder St., Colorado Springs, Colo.

F. J. Strah, Buena Vista, Colo.

Randall Bohmer, 208 Warren St., New Britain, Conn.

Mrs. John Branch, 3820 Ridge Ave., Tampa 3, Fla.

P. W. Holstun, 5235 Attleboro Ave., Jacksonville 5, Fla.

Mrs. Bertha Lawrence, 2311 Arcadia Dr., Miramar, Hollywood, Fla.

Louis C. Davis, 505 S. Slaphey Dr., Albany, Ga.

C. K. Henning, Union Pacific R.R. Shoshone, Idaho, (Phone 6011)

Maurice Lamb, Niota, Ill.

John H. Kaiser, East 3rd St., Sheridan, Ill.

Susan Tranter, 2 E. Walnut, Sharpsville, Ind.

John Burmeister, Preston, Iowa

Paul L. Doggett, 950-65th St., Des Moines 16, Iowa

Mrs. Bryce Allen, Box 486, Tribune, Kans.

Mr. & Mrs. Toivo Puranen, Ellis Rd., RFD 2, Box 67, Westminster, Mass.

Lawrence J. Eddy, 359 Midland Ave., Ironwood, Mich.

Rev. Luke McMillian, 742 Comfort St., Lansing 15, Mich.

Gust Korpi, 5th St., Box 132, Soudan, Minn.

Merryl & Mary McCoy, RR 3, Kahoka, Mo.

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Jack Ryason, Box 245,  
Bridgeport, Nebr.

Rev. M. Everett Corbett,  
Acworth, N.H.

James B. Moore, West St.,  
Antrim, N.H. Phone 154

Edward R. Loveland, Delsea Drive,  
Pitman, N. J.

Mr. & Mrs. Rudolph Arp, 99 Mountainside  
Terr., Clifton, N.J.

L. Michael Kaas, 18 N. Mansfield Ave.,  
Margate City, N.J.

Mr. & Mrs. John T. Swift, 955 Beatty St.,  
Trenton 10, N.J.

Clyde D. Thomas, 853-57th St., N.W.,  
Albuquerque, N. Mex.

Vernon Haskins, Curator, Durham Center  
Museum, East Durham, N.Y.

Edward B. Thomas, 26 John St.,  
Owego, N.Y.

Leonard Mackey, Box 175, South Colton,  
N.Y.

Wm. & Adeline Rudge, Grand & Webster  
Ave., Lake Ronkonkoma, L. I., N. Y.

Ralph W. Caton, 51 Valley St., Concord,  
N.C.

Burl H. Van Dyke Rt. 1,  
Boone, N.C.

Herby Bolik, 26 Wilson Drive,  
Morganton, N. C.

Waldo Blair, 1777 E. 31st St., Lorain, Ohio.

Mr. & Mrs. F. H. Dunsmoor, 1280 Mahoning  
Ave., N.W. Warren, Ohio.

Mr. & Mrs. Harold Heeley, 16317 Corkhill  
Rd. Maple Hts., Ohio.

Mrs. Daisy Lynn, 204 E. Dalton,  
Hugo, Okla.

J. P. Cessna, 218 Baltimore St.,  
Gettysburg, Pa.

Mr. & Mrs. A. B. Carson, 12 Catawba  
Ave., Greenville, S.C.

Rev. Theo. H. Judt, 520 N. Washington  
Ave., Scotland, S.D.

Edward Helpenstell, 1429 Sandpiper Dr.,  
Houston 36, Texas

T. Nichols, Rt. 4,  
Bowie, Texas

V. Sabin, 723 Steves,  
San Antonio 10, Texas

Larry Volkert, 54 N. Pleasant St.,  
Middlebury, Vt.

Nelson R. Longe, 5 Leonard Ave., Springfield, Vt.

Rudy J. Bland, Jr., 3218 Rueger St.,  
Richmond, Va.

G. W. Weber, 1320 Portland Ave.,  
Walla Walla, Wash.

Lyle De Rusha, RR 4  
Chippewa Falls, Wisc.

Herman Kraege,  
Lima Center, Wisc.

Mr. & Mrs. C. O. Garriott Box 1, Sand  
Draw, Wyo.

Thomas L. Sellers, Box 186,  
Margarita, Canal Zone

Mr. & Mrs. W. F. Erichsen, 2075 Lansdowne  
Rd. Victoria, B.C., Canada

Douglas Scott, Markham, Ont., Canada.

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Blessed indeed is the mineral collector  
whose wife shares his enthusiasm for his  
hobby.

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**Once a sea dog now a rockhound!**

Editor R&M:

I am very much interested in R&M.  
I am an old retired sailor (marine engineer) and the only minerals I knew before I read R&M was bituminous coal, the slate found with the coal, and fire brick. Now I have over 200 mineral specimens—some rare ones.

R&M, the rockhound's Bible, will teach you to know rocks and minerals, if you can read.

Once a sea dog now a rockhound!  
Ben Brown  
Wingdale, N.Y.

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**Mineralogy of Moselle Mine No. 10**  
(Continued from page 331)

position of pyrite, marcasite and malachite. These include the iron hydrates of melanterite and copiapite and the copper hydrate, chalcocite. These can be observed forming on the mine dumps.

There are some minerals which occur in sink structures in this region but have not been observed by the author at the Moselle Mine No. 10. These minerals would include ankerite, calcite, and azurite.

## INFORMATION WANTED BY READERS

### What is Shattuckite?

What is shattuckite? Where is it found? Is it a rare mineral?

Robert L. Irving  
Crownsville, Md.

Ans. Shattuckite is a blue, hydrous silicate of copper. It occurs in compact, massive, granular masses and as pseudomorphs after malachite. It was first found in the Shattuck Arizona Copper Company's mine at Bisbee (Cochise Co.), Ariz., forming pseudomorphs after malachite. It is also found at Tantara, Belgian Congo, Africa. It is not a rare mineral and yet not a common one—it is more rare than common. It was named after the above Shattuck mine.

### Size of specimens to send collectors!

A number of readers are interested in exchanging minerals but being rank amateurs have no idea as to the size of specimens wanted by collectors. There is no set rule, it generally depends upon the collectors themselves. Some collectors want tiny specimens which may be so small you need a microscope to examine them, others want huge specimens that require a wheelbarrow to move them. To be on the safe side, ask the collector what size specimens he prefers and then try to supply him with the size wanted or as near to it as possible.

For the average run of minerals, 2x2, 2x3, or 3x4 inches are the most popular sizes, loose crystals may be of any size from tiny up to 6 inches or more in length. Collectors prefer good specimens even though small, than large ones which are poor in quality.

No matter what size specimen you may send a collector, always enclose with it a label giving the mineral's name and locality (print this information unless you are a good writer).

### California Bloodstone

What has become of California bloodstone? Up to about 3 years ago every mineral show seemed to have tons of this ma-

terial for sale. It is quite different from the India variety, being a yellowish-green color with large dull red spots on it. No one seems to know anything about it and dealers I have contacted claim it is now impossible to obtain it at any price and those who have any consider it as an heirloom. Seems odd to me that a type material like this that at best had no cutting value could be completely exhausted in such a short time.

Gerald O. Robbins  
P.O. Box 531  
Stockton, Calif.

Ans. Can any reader answer Mr. Robbins' inquiry? We cannot.

### Dinosaur footprints in Conn. Valley

I would like to know if there are any locations of dinosaur footprints in the Connecticut Valley?

Fred Pauli, Jr.  
17 Mallory St.  
Danbury, Conn.

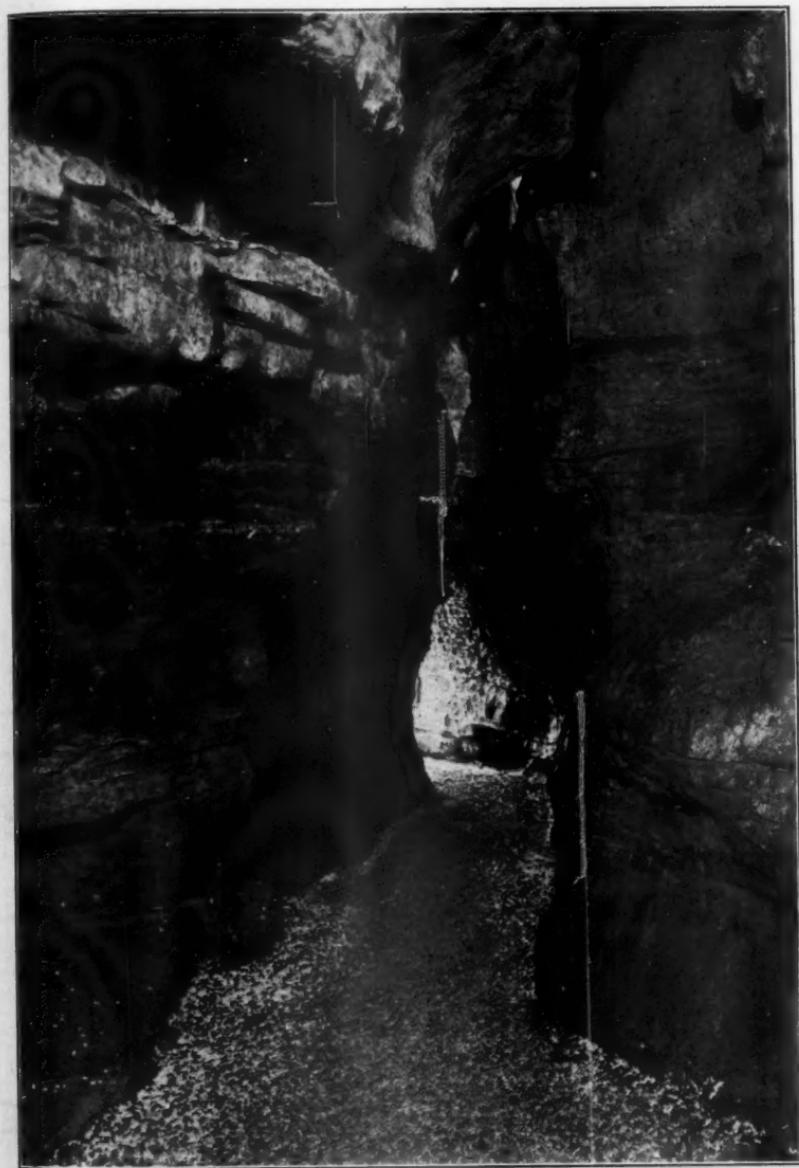
Ans. There are a number of areas in the Connecticut Valley where dinosaur footprints may be found. One is in a quarry near Durham, Middlesex Co., Conn. See "Dinosaur Tracks of the Connecticut River Valley," by Bernard W. Powell, Jan-Feb. 1956, R&M, pp. 3-8.

### Wants literature on crystallography

I am having a tough time with crystal identification. Could you suggest some literature and where I might obtain it?

P. W. Holstun  
5235 Attleboro Ave.  
Jacksonville 5, Fla.

We would suggest purchasing one of Gude's Crystal Models Construction Kits which has been prepared especially for beginners in crystallography. 15 paper models sell for \$1.00; 111 models sell for \$3.50. These are printed on heavy paper with instructions for assembling. For sale by the Colorado School of Mines, Golden, Colo., and possibly some of our advertisers.



A bit of winding way in Howe Caverns (Schoharie Co.), New York



